

NIGERIA

COUNTRY PROFILE

**IMPLEMENTATION OF AGENDA 21:
REVIEW OF PROGRESS MADE SINCE THE
UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT, 1992**

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*United Nations Department for Policy Coordination and Sustainable Development
Division for Sustainable Development*

*The Information contained in this Country Profile is also available on the World Wide Web, as follows:
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NIGERIA

This country profile has been provided by:

Name of Ministry/Office:

Date:

Submitted by:

Mailing address:

Telephone:

Telefax:

E-mail:

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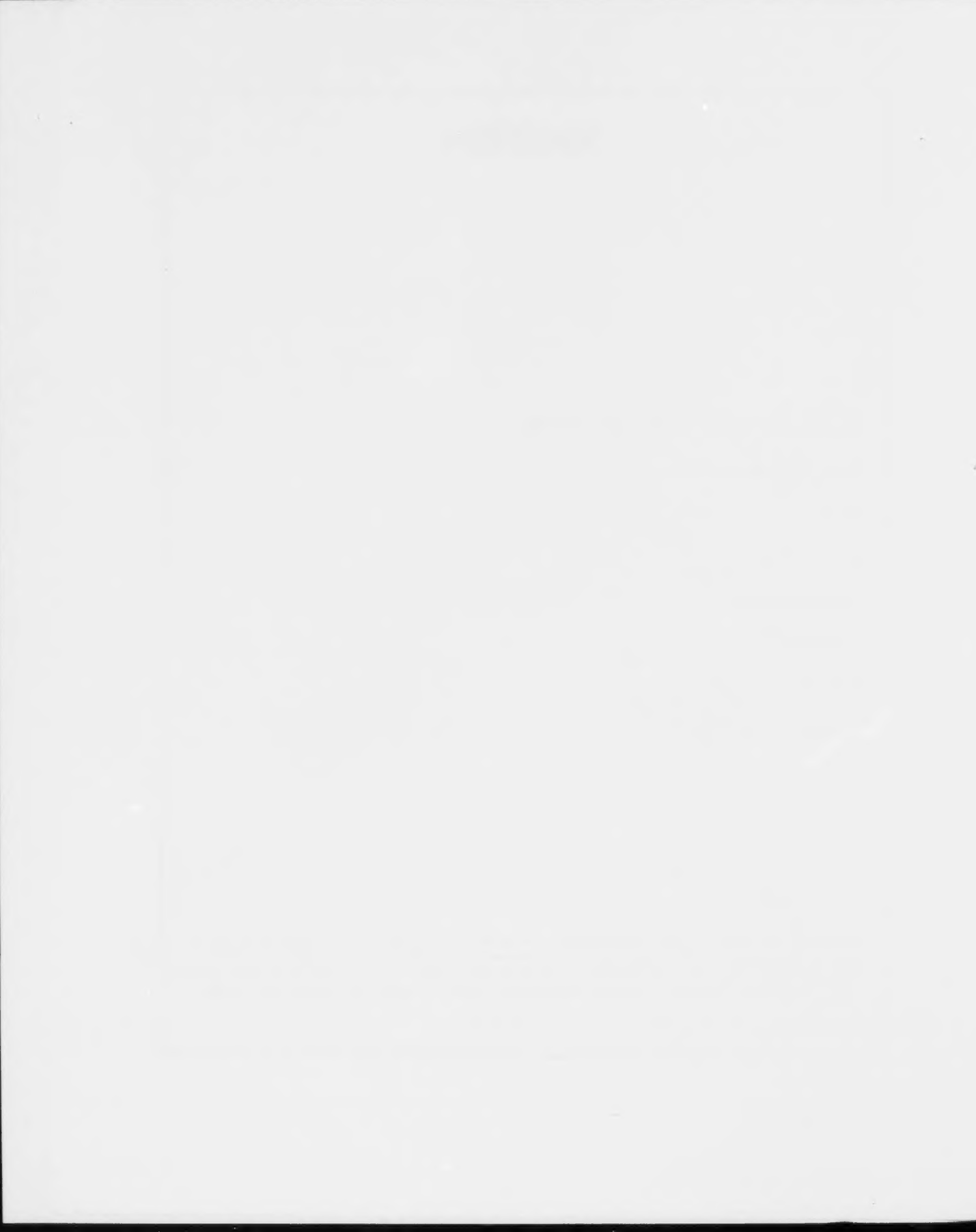


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ACRONYMS

APELL	Awareness and Preparedness for Emergencies at Local Level
CFC	chlorofluorocarbon
CGIAR	Consultative Group on International Agriculture Research
CILSS	Permanent Inter-State Committee on Drought Control in the Sahel
EEZ	exclusive economic zone
ECA	Economic Commission for Africa
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ELCI	Environmental Liaison Centre International
EMINWA	environmentally sound management of inland water
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCSA	Economic and Social Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GEMS/WATER	Global Water Quality Monitoring Programme
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Pollution
GIPME	Global Investigation of Pollution in Marine Environment (UNESCO)
GIS	Geographical Information System
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
GSP	generalized system of preferences
HIV	human immunodeficiency virus
IAEA	International Atomic Energy Agency
IAP-WASAD	International Action Programme on Water and Sustainable Agricultural Development
IARC	International Agency for Research on Cancer
IBSRAM	International Board of Soil Resources and Management
ICCA	International Council of Chemical Associations
ICES	International Council for the Exploration of the Sea
ICPIC	International Cleaner Production Information Clearing House
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
IEEA	Integrated environmental and economic accounting
IFAD	International Fund for Agricultural Development
IGADD	Intergovernmental Authority for Drought and Development
IGBP	International Geosphere-Biosphere Programme (ICSU)
IGBP/START	International Geosphere-Biosphere Programme/Global Change System for Analysis, Research and Training
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
INFOTERRA	International Environment Information system (UNEP)
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	integrated pest management
IRPTC	International Register of Potentially Toxic Chemicals
ITC	International Tin Council
ITTO	International Tropical Timber Organization

ACRONYMS (Cont'd)

IUCN	International Union for Conservation of Nature and Natural Resources
MARPOL	International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PGRFA	plant genetic resources for agriculture
PIC	prior informed consent procedure
SADCC	South African Development Co-ordination Conference
SARD	sustainable agriculture and rural development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNU	United Nations University
WCP	World Climate Programme (WMO/UNEP/ICSU/UNESCO)
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WWF	World Wide Fund for Nature (also called World Wildlife Fund)
WWW	World Weather Watch (WMO)

OVERVIEW

1. Nigeria has made significant effort since the Rio Conference to address the core environmental and sustainable development issues which were identified and agreed upon at the United Nations Conference on Environment and Development (UNCED). However, environmental problems are still visible five years after UNCED.
2. Land degradation remains the greatest problems in Nigeria. In addition, we still witness high levels of water and air pollution while efforts to reduce the rate of natural resources depletion and desertification are yet to yield significant results. Moreover the debt situation in Nigeria is still a major hindrance to sustainable development and poverty alleviation.
3. Apart from the national environmental problems, Nigeria has to contend with global environmental problems such as ozone layer depletion, global warming and the consequent climate change. The toxic wastes dump problem is still prevalent in spite of the relevant provision of the Basel Convention.
4. Despite these problems, Nigeria made progress in setting up the necessary institutional framework geared towards sustainable development. For instance in 1992, the Federal Environmental Protection Agency (FEPA) was given a broader mandate over natural resources conservation and its functions were enhanced by according it supra-ministerial status within the presidency.
5. The enhanced mandate of FEPA as well as the establishment of the National Planning Commission along with the existing ministries provided the framework for the integration of environmental concerns into physical and socio-economic development policies of the nation. The institutional framework has fostered international cooperation on environmental matters between Nigeria and several overseas countries and international organisations.
6. The unprecedented increase in population and rapid rate of urbanisation have brought about significant settlement problems of housing, overcrowding, traffic congestion, environmental degradation, inadequate infrastructure and services. Recognising these problems, the Government has not only featured in its National Rolling Plan the National Housing Policy but also the strategies for implementing a number of programmes aimed at promoting sustainable human settlement development.
7. Some major landmarks which were already made in Nigeria in the field of environment formed the basis of the new agenda for environmental protection and natural resource conservation in the country. The National Policy on the Environment and appropriate legislation, guidelines and standards for environmental impact assessment are being progressively reviewed and strengthened taking into consideration the challenges of Agenda 21.
8. Realising that climate is slowly and steadily varying due to human activities, systematic monitoring has since been ensured by Government through relevant agencies and departments in order to determine, in quantitative terms, the rate of variation. Such information becomes important for early warnings against natural disasters of flooding, erosion and drought among others. Also, several greenhouse gases are under surveillance for the purpose of determining the others. Also, several greenhouse gases are under surveillance for the purpose of determining the level of atmospheric pollution in the country.
9. The Government has also evolved through relevant agencies sound planning and management of land resources in the country. Various programmes including soil survey, land evaluation, fertiliser testing, fertility management and soil conservation are being pursued with adequate consideration to their environmental implications.
10. One major source of concern to the Federal Government of Nigeria is the persistent decline of national forest at an alarming rate of about 3.5 per cent per annum. Efforts towards sustainable forest management are made through the development of appropriate strategies and an action plan, afforestation programmes, a forest inventory as well as extension and advisory services.
11. The serious ecological and socio-economic implications of desertification and drought in Nigeria have informed the government to take certain steps in mitigating the problems associated with desertification and drought. The hectares of shelterbelts and woodlot are being increased in the marginal semi-arid lands of the country while emergency relief assistance are also provided to ameliorate the effects of ecological problems arising from drought and other natural disasters.

OVERVIEW (Cont'd)

12. The establishment of nationwide drainage basin irrigation projects extensively demonstrate the Government's commitments to promoting sustainable agriculture and rural development. The programme among several others are under the purview of the Ministry of Agriculture and Natural Resource as well as that of Water Resources and Rural Development.

13. The Federal Government policy goal on biological diversity, taking into consideration the relevant provision of the Convention on Biological Diversity, is geared towards conservation of this vital resources, the sustainable utilisation of its components and the equitable sharing of benefits derived therein. Towards achieving this goal, priority programmes of expansion of the network of National Parks and Reserves as well as the compilation of flora and fauna of Nigeria are being pursued in addition to the development of a National Strategy and Action Plan for Biological Diversity.

14. In an attempt to pursue sustainable use of our coastal water and the adjacent land, the Government put in place an Action Plan on water pollution control and biological diversity conservation in the Niger Delta area of the country. Internationally, collaborative efforts are made with the West African sub-region under the Gulf of Guinea Large Marine Ecosystem (GOGLME) Project aimed at monitoring coastal water in terms of pollution and biological diversity conservation. Apart from this project, measurements of some meteorological parameters over the Atlantic Ocean bordering the country are being taken by relevant agencies.

15. Nigeria has given high priority to its freshwater resources due to the growing concern at the increasing stress on water supplies caused by poor use patterns, affecting both water quality and quantity. Consequently, the Government through the Ministry of Water Resources and Rural Development, is undertaking a number of programmes designed to protect the quality and supply of freshwater resources in the country. Some of these include the preparation of a National Water Resources Master Plan (1995-2020), water resources assessment, promulgation of enabling decree, rehabilitation of dams and soil erosion sites, and establishment of water quality laboratories. Others include development of a national water supply policy, production of the national rural water supply, Sanitation Sector Strategy and Action Plan, and strengthening of national water quality monitoring networks.

16. Since Rio, Nigeria has also put in place a hazardous chemicals and toxic wastes dump programme and established a FEPA/University of Ibadan Linkage Centre to carry out research and training in the area of industrial, domestic and hazardous waste management.

17. In recognition of the fact that broad public participation in decision making is a fundamental prerequisite for achieving sustainable development, Nigeria has made concerned efforts to involve the relevant groups in all its major activities geared towards implementation of Agenda 21. A Ministry of Women Affairs has been established. The activities and number of NGOs have been increased, local environmental action plans are under preparation, environment units are being established by most manufacturing companies, and the scientific and technological communities are getting increasingly active in environmental matters.

18. The implementation of Agenda 21 in the country is expectedly being funded largely through the national budget and, more specifically, the ecological fund which is 2% of the Federation's Account. International partner agencies also provide some financial assistance. Implementation of Agenda 21 has also been intensified through capacity building and institutional strengthening, promotion of public education, awareness and training and establishment of data management and information centres.

19. In spite of the remarkable progress made, there are still substantial constraints to the effective implementation of Agenda 21. These include uncoordinated policies and legal instruments, weak data base, inadequate enforcement, institutional conflicts, inadequate and untimely funding, and lack of public awareness.

20. Nigeria's preparedness for Agenda 21 received a boost from the establishment of the VISION 2010 Committee, a body charged with the articulation of a long-term sectoral economic development programme designed to usher the nation into the 3rd millennium. The National Agenda 21 document has therefore been prepared to address the environmental implication of this developmental programme.

OVERVIEW (Cont'd)

21. Specific and local environmental problems which are to be resolved within the context of the priorities identified by the National Committee on Agenda 21 are listed below:

Forest Protection

Erosion Control.

Management of Municipal Solid Wastes

Combating Desertification and Mitigating Effect of Drought

Rational Use of Oil and Gas Resources

Protecting and Managing Water Resources

Sustainable Human Settlement

Managing Mining Sites and Restoring Mining Wastelands

Managing Toxic Chemicals, Hazardous and Radio-active Wastes

Emergency Preparedness and Management

Flood Management

Control of the Infestation of Water Hyacinth and other invasive Weeds

Strengthening, Improving and Coordinating Implementation of Environmental Management

Strengthening the Legal Basis for Sustainable Development

Integrating Environment into Development Plan and Decision Making

Harmonising of Federal and State Responsibilities for Environmental Management

State and Local Government Responsibilities

Creating and Improving Capacity for Sustainable Development

Internalising Environmental Costs through the use of Economic Instruments in the Management of Natural Resources

Alleviating Poverty

Promoting the Research and Development of Environmentally Sound Technology

Forging Viable Partnership among various Stakeholders and Interest Groups both at National and International Levels

Managing Environmental Information for Sustainable Development

Financing Environmental Protection and Natural Resources Conservation through National and International Funding Mechanisms

NATIONAL ENVIRONMENTAL PROBLEMS

The environment provides all life support systems with air, water and land as well as the materials for fulfilling all developmental aspirations of man. As in most other countries of the world, the Nigerian environment today presents a grim litany of woes.

Every State of the Federation suffers from one form of environmental problem or the other in varying degrees. The northern part of the country is being literally "blown away" by wind erosion while the southern part is being washed away into the ocean using the description of Mr. McNamara, former president of the World Bank. Wind erosion could be quite severe in States such as Sokoto, Zamfara, Kebbi, Katsina, Kano, Jigawa, Borno and Yobe. Farmlands become inundated by drifting sands which bury young crops. Roads and sometimes huts and public buildings may be completely buried by active sand dunes rising sometimes up to 12 metres high.

Desertification and Drought

Population pressure, over grazing and the continuous exploitation of marginal lands have aggravated drought and desertification. Nigeria is presently losing about 351,000 square kilometres of its land mass to the desert which is advancing southward at the rate of 0.6 kilometres per year. According to a recent survey by the Centre for Arid Zones Studies in Nigeria, desertification is by far the most pressing environmental problem in the northern states along the Niger Republic border. The outward and visible sign of the desertification process is the gradual shift in vegetation from grasses, bushes and occasional trees, to grass and bush and in the final stages, extensive areas of desert-like sand. Entire villages and major access roads have been buried under sand dunes in the northern portions of Katsina, Sokoto, Jigawa and Borno States. With about 55 percent of its land under siege from desert encroachment, Borno State which suffered from a protracted fifteen-year drought in 1972-1978, is one of the most threatened land areas of Nigeria. Perhaps more spectacular, and of grave consequence are the persistent droughts which, a number of times, have resulted in famine in the northern part of the country. During the drought of 1972-1973 for instance, about 300,000 animals died and farm yields dropped by up to 60%.

Land Degradation

The intensification of the use of fragile and marginal ecosystems has led to progressive degradation and continued desertification of marginal agricultural lands even in years of normal rainfall. It is feared that the damage by drought and population pressure may have resulted in the genetic loss of a vast array of valuable plant species. Pressure on the dwindling resources in the arid prone areas has caused in a number of devastating socio-political and sectarian conflicts in the country with concomitant death, injury and heavy economic losses.

Inappropriate agricultural practices, the destruction of watersheds, and the opening up of river banks and other critical areas have led to silting of river beds and loss of water courses. Uncontrolled use of agro-chemicals and the concomitant problems of chemical persistence in the soil in humid areas and soil-crust formation in arid climates have contributed to salinisation and destruction of vast agricultural lands.

Petroleum prospecting with its attendant oil pollution problems (including spills, oil well blow-out, oil blast discharges, improper disposal of drilling mud) has created problems such as:

- a. the loss of the aesthetic values of natural beaches due to unsightly oil slicks;
- b. damage to marine wildlife, modification of the ecosystem through species elimination and the delay in biota (faunal and floral) succession; and
- c. decrease in fishery resources;

Gas flaring and the resultant problems of ecosystem heat stress, acid rain and acid precipitation have prompted destruction of freshwater and forests resources in the coastal areas of the country. A scientist once estimated that the heat and energy emanating from gas flaring in 1986 was equivalent to all the electrical power generated by the Nigerian Electricity Power Authority (NEPA) that year. Global estimates indicate that the flaring of petroleum associated gas in Nigeria alone accounts for 28% of the total gas flares in the world.

The problems of exposure to radiation, creation of artificial ponds associated with bad mining practices and non-reclamation of mining waste lands as provided for in the Minerals Acts are common in the mine fields of Jos Plateau, Enugu and other locations.

Excessive pressures on available urban resources, infrastructure and space, due to rural urban migration and the resultant problems of urban decay and squatter settlements are evident in Lagos, Port-Harcourt, Ibadan, Umuahia, Kano, Kaduna, Maiduguri and of recent Abuja and its satellite towns.

Erosion

Gully erosion is particularly severe in Abia, Imo, Anambra, Enugu, Ondo, Edo, Ebonyi, Kogi, Adamawa, Delta, Jigawa and Gombe States. Anambra and Enugu States alone have over 50 active gully complexes, with some extending over 100 metres long, 20 meters wide and 15 meters deep.

Coastal and marine erosion and subsidence occur particularly in the coastal areas of Ogun, Ondo, Delta, Rivers, Bayelsa, Akwa Ibom and Cross River States. The most significant case of coastal erosion and flooding is the overflow of the Bar Beach of the Atlantic Ocean now a regular feature since 1990, threatening the prime property areas of the Ahmadu Bello Way, Victoria Island, Lagos.

Flooding

Flooding occurs throughout Nigeria in three main forms: coastal flooding, river flooding, and urban flooding. Coastal flooding occurs in the low-lying belt of mangrove and fresh water swamps along the coast. River flooding occurs in the flood plains of the larger rivers, while sudden, short-lived flash floods are associated with rivers in the inland areas where sudden heavy rains can change them into destructive torrents within a short period.

Urban flooding occur in towns located on flat or low lying terrain especially where little or no provision has been made for surface drainage, or where existing drainage has been blocked with municipal waste, refuse and eroded soil sediments.

Extensive urban flooding is a phenomenon of every rainy session in Lagos, Maiduguri, Aba, Warri, Benin and Ibadan.

Virtually every Nigerian is vulnerable to disasters, natural or man-made. Every rainy season, wind gusts arising from tropical storms claim lives and property worth million of Naira across the country. Flash floods from torrential rains wash away thousands of hectares of farmland. Dam bursts are common following such flood. In August 1988 for instance, 142 people died, 18,000 houses were destroyed and 14,000 farms were swept away when the Bagauda Dam collapsed following a flash flood. Urban flooding such as the Ogunpa disaster which claimed over 200 lives and damaged property worth millions of Naira in Ibadan, are common occurrence.

Deforestation

Uncontrolled logging and tree felling from which government generate paltry taxes accentuated by lack of re-stocking are the order of the day in many parts of the southern states of Nigeria. This carries with it loss of precious biological diversity.

Nigeria's wildlife is rapidly declining due to habitat loss and increased pressure from hunters, poachers and bush burning.

Animals that have disappeared from Nigeria in recent times include the cheetah, the pygmy hippopotamus, the giraffe, the black rhinoceros and the giant eland. About 10-12 species of primates including the white throated guenon species of primates and sclater's guenous are under threat. Also an estimated 484 plant species in 112 families are threatened with extinction because of habitat destruction and deforestation.

Many of our cities are turning into concrete jungle where plants are no longer used for home landscaping. High rise buildings and other commercial centres have displaced areas earlier earmarked as low density residential areas in Ikoyi and Victoria-Island. The new Federal Capital Territory at Abuja is a pathetic example of this development where the rich and natural vegetation is being systematically depleted as a result of increasing human pressure. The rampant bush burning is threatening the growth of trees and wildlife species and reducing the ecological diversity of the area; gravel mining for construction is aggravating the problem of erosion and surface run-off; while indiscriminate discharge of particulates from construction sites is already leading to pollution and siltation. More recently, areas earmarked as green belts and recreational areas are being systematically converted into building sites.

Pollution

The problems of industrial pollution are enormous. Nigeria has about 5,000 registered industrial facilities and some 10,000 small scale industries operating illegally within residential premises. In places like Kano, Kaduna and Lagos, coloured, hot and heavy metal-laden effluents especially from the textile, tannery and paints industries are discharged directly into open drains and water channels, constituting direct dangers to water users and biota downstream. Also disturbing is the practice whereby some industrial facilities bury their expired chemicals and hazardous chemical wastes in their backyard threatening the ground water quality.

Stack fumes from industries emit nauseating gases and particulates with grave respiratory and cardiac ailment consequences. Their physical spread often occlude sunlight for hours in several parts of Lagos, Kano, Enugu and Port-Harcourt. Air inversion with its accompanying foggy dispersion and visibility reduction to less than 20 meters has almost become a permanent feature of the Oko Baba mid-section part of the Third Mainland Bridge in Lagos where saw millers burn away sawdust and other wood shavings. A similar phenomenon is experienced at the toll gate end of the Lagos-Ibadan Expressway at Oregun, where smoke from a nearby dump site pollutes the air and emits nauseating odour.

Municipal solid waste heaps dot several parts of our major cities blocking motor roads, alleys and pavements. Municipal wastes and sewage disposal problem are particularly serious in Lagos, Ibadan, Enugu, Kaduna, Aba, Port Harcourt and Owerri and Warri. These unsightly dump sites are characterised by:

- (i) various non-biodegradable household petrochemical products such as polythene bags, plastic containers, Styrofoam packages and tyres;
- (ii) crankcase oils discharged by mechanical workshops, industries, power stations and commercial houses estimated at about 20 million gallons per year are discharged carelessly into drains and surface waters, thereby contaminating surface and underground waters. They are also aesthetically unpleasant;
- (iii) the siting of public buildings and residential quarters on flood-prone areas as well as unsettled and improperly reclaimed dump sites. Such ecologically sensitive areas are often converted into plots for the erection of residential quarters and public buildings such as market stalls.

Poverty

Poverty is a cause as well as a consequence of environmental degradation. Poverty, particularly in rural areas, and its attendant malnutrition and undernutrition are closely linked to degradation of the environment, as poverty depletes natural resources which in turn exacerbates the sufferings of the poor. It is often said that the two groups particularly responsible for a disproportionate share of environmental degradation are the world's top richest and bottom billion, that is, the poorest of the poor. The former always tries to satisfy wants and not needs. In contrast, the bottom billion, due to economic necessity born out of survival instinct and lack of options, scavenge marginal lands to survive today at the expense of tomorrow. Thus, they are caught in the perpetual web of poverty and environmental degradation. In the final analysis, the poor are usually both victims and agents of environmental damage.

Health related environmental problems in Nigeria vary with the social and economic development achieved by different states and even different towns, and villages within individual states. They are linked to poverty, absence of adequate water supplies, lack of sanitation services, and poor housing conditions. With increasing industrialisation, the risk of respiratory illness and cancer-related deaths also rises. Extensive and rapid development in all industrial and many agricultural sectors have sharply increased the exposure of industrial workers and large segments of the population to these risks. The major public health problems associated with poor environmental sanitation and exposure to communicable diseases and poor personal hygiene predominate and are often compounded by malnutrition which reduces resistance to diseases especially among vulnerable groups i.e children, pregnant and lactating mothers and the aged. Malaria, cholera, schistosomiasis, diarrhoea and other diseases transmitted by mosquitoes and other vectors such as filariasis and parasitic infestations such as guinea worm and onchocerciasis are still mayor public health problems. Many other diseases such as tetanus, whooping cough and tuberculosis are becoming more prevalent in urban areas as a direct result of overcrowding and poor sanitary conditions. Other public health problems are associated with exposure to hazardous chemicals and heavy metals. According to the World Bank Report of 1990, the long term loss to Nigeria from environmental degradation was estimated to be about US\$5 billion annually or the equivalent of the nation's annual budget.

GLOBAL ENVIRONMENTAL ISSUES

Apart from the major national problems catalogued above, Nigeria also has to contend with such global environmental problems as climate change, ozone layer depletion, drought and desertification.

Global Warming

Climate Change or Global Warming is caused by increasing concentrations of atmospheric warming gases or Green House Gases (GHG) especially carbon dioxide whose concentrations have increased from 280 ppm in 1800s to about 370 ppm now. These gases warm the atmosphere by their capacity to trap heat and cause changes in the weather pattern of the earth. The increase in temperature causes the polar ice caps to melt and ocean waters to expand. These in turn result in sea level rise leading to submergence of many low-lying areas of the world. An area that is highly prone to this sea level rise is the 29,000 sq km of Nigerian coastline, which houses prime real estate and one of the largest mangrove forests in the world. The area is also very rich in biodiversity.

Ozone Layer Depletion

Ozone Layer Depletion is linked with certain "miracle" chemicals of yesteryears, namely Chlorofluorocarbons (CFCs), Halons and Carbon Tetrachloride which destroy the ozone layer. This is nature's shield which filters off ultraviolet B radiation in the stratosphere, protects human beings, animals and plants from the harmful effects of these ultraviolet (UV) rays which could cause skin cancer, eye cataracts, loss of body immune systems etc. Chlorofluorocarbons, Halons and Carbon Tetrachloride are used as freezants, sterilants, solvents, propellants and active ingredients in the pharmaceutical industries, hospitals, electronic, refrigeration, air conditioning, foam and aerosol industries.

Transboundary Movement of Hazardous Wastes and Toxic Chemicals

Another important environmental problem is the non-natural but trade-related environmental problem of Transboundary movement of toxic chemical wastes, expired and contraband chemicals and pesticides. Over 11 million chemical substances are known of which about 60,000 to 70,000 are in regular use. Only 3,000 chemicals account for 90% by mass of the world's total chemical usage. Adequate toxicological data have been produced for only a small fraction of these chemicals, and data on their environmental and ecotoxicological effects are sparse. Every year, with increasing knowledge, chemicals with grave ecotoxicological and environmental effects are withdrawn and banned from international trade. In addition to this, - obsolete chemicals and other radio-active wastes are expected to be disposed of carefully in an environmentally-sound manner.

Over the past decade, unscrupulous foreign businessmen acting in collaboration with local links have found a new way of making money through illegal trade thriving on these cargoes of death from the developed countries to the poor, helpless and largely illiterate developing countries. 94% of all hazardous waste trade originate from the OECD countries. The sole aim is to avoid the strict environment and health safety regulatory requirements and public opposition of the host developed countries which is deeply rooted in economic calculations. For example, the treatment and disposal of Polychlorinated biphenyl (PCB, a highly toxic chemical), costs 3000 US Dollars per tonne in the U.S. compared to a mere 2 Dollars 50 cents including shipment cost and disposal in a developing country, where it is simply buried in dug out pits in the backyard or farms of the* helpless citizens. As Nigerians, we; cannot forget the Koko Saga involving 3,780 tonnes of toxic wastes from Italy in 5 shipments. That incident was nearly a national embarrassment but for the swift and decisive response of our government.

FACT SHEET

NAME OF COUNTRY:

1. Name of Key National Sustainable Development Coordination Mechanism(s)/Council(s).

Contact point (Name, Title, Office):

Telephone:

Fax:

e-mail:

Mailing address:

2. Membership/Composition/Chairperson:

2a. List of ministries and agencies involved:

2b. Names of para-statal bodies and institutions involved, as well as participating of academic and private sector bodies:

2c. Names of non-governmental organizations involved:

3. Mandate role of above mechanism/council:

4. If available, attach a diagram (organization chart) showing national coordination structure and linkages between ministries:

AGENDA 21 CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES (with special emphasis on TRADE)

NATIONAL PRIORITY:

STATUS REPORT: Nigeria has cooperated with international organisations in general activities aimed at the implementation of Agenda 21. Shortly after UNCED, a Regional Workshop on the implementation of Agenda 21 in Africa was organised in collaboration with the United Nations Development Programme (UNDP). The Workshop, held at the Centre for Women Development, Abuja, between 22 and 25 January 1993, drew participants from international and African Region and focused on the mechanisms and strategies for implementing Agenda 21 in Africa.

As a demonstration of the Government's commitment to the implementation of Agenda 21 and the effective resolution of other particular and global environmental issues, the international environmental conventions signed during the Rio Conference in 1992 were ratified in August 1994. These include the Convention on Biological Diversity and the Framework Convention on Climate Change (FCCC). The Convention to Combat Desertification was also signed in October 1994. As a mark of seriousness on the part of the country, Nigeria appointed an Environmental Attaches at the Nigerian Permanent Mission to the United Nations in New York, Geneva and Nairobi. This is in a bid to facilitate environmentally safe and sound technology transfer, bilateral and multilateral partnerships as well as effective monitoring of international trafficking of hazardous chemicals and toxic wastes.

Nigeria has also signed memoranda of understanding with many countries of the world in the area of environmental management. Collaborative research and development which are critical to the enrichment of the applications of science and technology to the national development efforts was fostered through the participation of the Ministry of Science and Technology in the activities of a number of international organisations including:

- Third World Academy of Science: Nigeria, through the Ministry hosted the 1995 Biennial Conference of the Academy in Abuja;
- Third World Network of Scientific Organisations: A Third World Scientific Organisation set up to promote networking of Science and technology information and other activities. The Honourable Minister of Science and Technology is the current Chairman for the African Zone;
- International Foundation for Science (IFS): A body set up to fund Research and Development projects in developing countries in both the private and public sectors. The Ministry is the focal point and Nigeria ranks third amount the beneficiaries of the Foundation.
- African Regional Centre for Technology: A body set up to cater for the promotion of indigenous technology, technical information dissemination and technology innovation. Nigeria is a major contributor to the funds of the Centre.
- International Centre for Genetic Engineering and Biotechnology: A body that supports the participation of member countries' scientists in training courses in Biotechnology and Genetic Engineering. Nigerian scientists have benefited from this programme.

Since the introduction of the Structural Adjustment Programme (SAP) in mid 1986, the Federal Government through the National Planning Commission, built into its Rolling Plans trade and payment liberalization measures aimed at achieving the objectives of SAP. This is in line with the demands of the country's external creditors as expressed through institutions such as the International Monetary Fund (IMF), the International Development Association (IDA), the International Finance Cooperation (IFC) and the International Bank for Reconstruction and Development (The World Bank). The policy is also in line with the Economic Community of West African States (ECOWAS) protocol on free trade to which Nigeria is a signatory. The objective is to encourage a more efficient and rational allocation of available resources through the interaction of market forces, while at the same time allowing local and foreign investors to jointly participate in the development of the economy. The fundamental idea is that in the new economic climate of a market economy underlying the SAP, it is absolutely essential that the true value of every resources and the long-term costs of exploiting it be known, budgeted and paid for.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.
2. **Capacity-Building/Technology Issues:** No information available.
3. **Major Groups:** No information available.
4. **Finance:** No information available.
5. **Regional/International Cooperation:** See information provided under STATUS REPORT.

AGENDA 21 CHAPTER 3: COMBATING POVERTY

NATIONAL PRIORITY:

STATUS REPORT: The thrust of current government policy in the action against poverty is to enable the poor and more vulnerable sections of society to achieve sustainable livelihoods. The approach is to economically empower communities, families and individuals through a sustained, well coordinated and comprehensive programme of poverty alleviation. Accordingly, the National Planning Commission (NPC) in collaboration with the United Nations Development Programme (UNDP) is articulating a Community Action Programme for Poverty Alleviation (CAPPA). The detailed strategies, activities and targets of the CAPPA are still being worked out. In broad terms, however, it will among other things streamline on-going activities by Government and Non-Governmental Organizations (NGOs). These on-going government activities have regularly featured in the National Rolling Plan beginning with the 1990-1992 Plan. They include programmes such as:

- establishment of the People's Bank, aimed at extending small credits to people in the informal sector of the economy with the aim of strengthening informal economic activities cities, and towns and villages;
- Economic programmes for the Empowerment of Women have featured consistently in the Rolling Plans;
- Establishment of the National Economic Recovery Fund (NERFUND) which provides easy access to credit by small and medium scale enterprises;
- Establishment of the National Directorate of Employment (NDE), a self employment promotion programme which has largely promoted waste to wealth employment activities;
- Education of itinerant communities such as the Fulani nomads, Ijaws, etc.
- Primary Health Care (PHC) programme, whose purpose is to bring health care, particularly preventive health care to the grass roots of the Nigerian Society;
- Establishment of the Agricultural Development Programme (ADP) in all States of Federation;
- Establishment of the River Basin Development Authorities; and provision of rural access roads;
- Establishment of the National Agricultural Land Development Authority (NALDA) aimed at promoting integrated rural development.

There are also specific environmental improvement programmes that have been integrated with poverty alleviation programmes. Examples are:

- * the Sokoto Desertification Control Programme, and integrated environmental protection programme jointly funded by the Federal Government of Nigeria and the European Economic Community (EEC).
- * the Katsina Arid Zone Development Programme, and the North East Arid Zone Development Programme, an integrated programme funded by FGN/EEC.
- * upgrading and mechanisation of traditional methods of processing of Nigeria's food resources, a project promoted by the Federal Ministry of Science and Technology.

Besides, the Family Economic Advancement Programme (FEAP), the Ministry has designed and produced the following equipment/plants, among others, for nationwide demonstration and adaptation:

- Groundnut processing technology consisting of groundnut sheller, a dehuller and roaster;
- Hydraulic machine for the production of bricks from local materials;
- Tiles-production machine for producing roofing tiles from local fibre, cement and sand;
- Lime kiln for the production of lime for leather processing and school chalk manufacture;
- Soap making process for cottage/small scale production of both traditional and modern production of soap;
- Mushroom production technology;
- Fat liquor production- a developed process for fat liquor, an essential product required in the leather tanning industry;
- pottery/ceramic machine, designed and fabricated for the production of pottery and ceramic wares from local clays;
- Essential Oils Distillation plant for the production of essential oils from local plants such as eucalyptus and lemon grass. Essential oils are inputs in the food, confectionary and pharmaceutical industries.
- Briquetting Technology for sawdust and agricultural wastes suitable for production of alternate sources to fuel and wood.

FUTURE PLANS FOR ALLEVIATING POVERTY

Justification

There is an inextricable link between poverty and environmental degradation. Poverty can be the cause and/or the effect of environmental degradation. Poverty itself is a complex multidimensional problem with origins in both the national and international domains. While managing resources sustainably, an environmental policy that focuses mainly on the conservation and protection of resources must take due account of those who depend on the resources for their livelihoods otherwise it could have an adverse impact both on poverty alleviation and on chances for long-term success in resource and environmental conservation. Equally, a development policy that focuses mainly on increasing the production of goods without addressing the sustainability of the resource base will sooner or later run into declining productivity, thereby aggravating poverty. A specific anti-poverty strategy is, therefore, one of the basic conditions for ensuring sustainable development. The long-term objective of enabling all people to achieve sustainable livelihoods should provide an integrating factor that allows policies to address issues of development, sustainable resource management and poverty eradication simultaneously.

Strategy

1. provide all persons with the opportunity to earn a sustainable livelihood;
2. implement policies and strategies that promote sustainable adequate levels of funding and focus on integrated human development policies, including income generation, increased local control of resources, local institution strengthening and capacity-building and greater involvement of nongovernmental organizations and local levels of government as delivery mechanisms;
3. develop all poverty-stricken areas through integrated strategies and programmes of sound and sustainable management of the environment, resource mobilization, poverty eradication and alleviation, employment and income generation;
4. creating a focus in national development plans and budgets on investment in human capital, with special policies and programmes directed at rural areas, the urban poor, women and children.
5. Establishing appropriate infrastructure and support system to facilitate the alleviation of poverty by implementing projects, programmes, enterprises and life styles sustainable at grass roots level.

STATISTICAL DATA/INDICATORS

	1985	1990	1992	Latest 199_
Unemployment (%)				
Population living in absolute poverty				
Public spending on social sector %				
Other data				

AGENDA 21 CHAPTER 4: CHANGING CONSUMPTION PATTERNS

NATIONAL PRIORITY:

STATUS REPORT:

- National policy objectives/focus

No information available.

- National targets

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.
2. **Capacity-Building/Technology Issues:** No information available.
3. **Major Groups:** No information available.
4. **Finance:** No information available.
5. **Regional/International Cooperation:** No information available.

STATISTICAL DATA/INDICATORS

	1985	1990	1992	Latest 199_
GDP per capita (current US\$)				
Real GDP growth (%)				
Annual energy consumption per capita (Kg. of oil equivalent per capita)				
Motor vehicles in use per 1000 inhabitants				
Other data				

AGENDA 21 CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY**NATIONAL PRIORITY:****STATUS REPORT:** No information available.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.
2. **Capacity-Building/Technology Issues:** No information available.
3. **Major Groups:** No information available.
4. **Finance:** No information available.
5. **Regional/International Cooperation:** No information available.

STATISTICAL DATA/INDICATORS

	1990	1993	Latest 199_
Population (Thousands) mid-year estimates			
Annual rate of increase (1990-1993)			
Surface area (Km ²)			
Population density (people/Km ²)			
Other data			

AGENDA 21 CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

NATIONAL PRIORITY:	
STATUS REPORT: No information available.	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.
2. **Capacity-Building/Technology Issues:** No information available.
3. **Major Groups:** No information available.
4. **Finance:** No information available.
5. **Regional/International Cooperation:** No information available.

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199	
Life expectancy at birth				
Male				
Female				
Infant mortality (per 1000 live births)				
Maternal mortality rate (per 100000 live births)				
Access to safe drinking water (% of population)				
Access to sanitation services (% of population)				
Other data				

AGENDA 21 CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

NATIONAL PRIORITY:

STATUS REPORT: Nigeria has witnessed rapid rate of urbanization in the last two decades. It is estimated that over 40% of the Nigerian population now live in urban areas. The rapid rate of urbanization has brought with it some significant problems including of shortage of housing, overcrowding, traffic congestion, environmental degradation, inadequate infrastructure and services, etc. In recognition of these problems, the National Rolling Plans since 1990 have featured in the National Housing Policy instruments for implementing the National Housing Programme the main thrust of which policy is to provide cheap and affordable housing for all by the year 2000. Furthermore, a National Housing Fund and an Infrastructural Development Fund have been put in place to facilitate the attainment of the goals of sustainable human settlements in the country. The plans are being implemented by the Ministry of Works and Housing.

The activities of the Government through the Federal Ministry of Works and Housing are highlighted under the relevant programme areas as:

- Providing adequate shelter for all;
- Improving human settlement management;
- Promoting sustainable land use planning and management;
- Promoting the integrated provision of environmental infrastructure such as water, sanitation, drainage and solid waste management;
- Promoting human settlement planning and management in disaster prone areas;
- Promoting sustainable construction industry activities;
- Promoting human resource development and capacity building for human settlement development.

The Government's decision to implement these programmes predicated on the resolution adopted at the 1st United Nations Conference on Human Settlement (Habitat) held in Vancouver, Canada in 1976. The achievements in the Human Settlement Sector are as follows:

Providing Adequate Shelter for all

The National Housing Policy was formulated and launched in 1991. The document outlines policies and strategies to provide decent housing for all by the year 2000 or in the shortest possible time. A fall-out of the policy is the establishment of the Housing Policy Council to monitor activities in the housing sector and evaluate policy impact on the sector. The council collects data and publishes information on the state of the housing sector regularly.

The National Housing Fund was established in 1992 to solve the problem of finance for housing development. All workers (both public and private sector) earning N3,000 and above per annum contribute 2.5% of their income to the fund. The fund is to be disbursed as mortgage loans through primary mortgage institutions to the subscribers to the fund.

Federal Government, through the Federal Housing Authority (FHA) started the National Housing Programme in 1994. The objective is to produce 121,000 housing units for low, medium and high income earners. So far only about 5% of the target has been achieved.

Further efforts on direct construction of houses continue to be made through the National Prototype Housing Programme aimed at demonstrating the feasibility of constructing functional, cost effective and affordable housing units. So far 600 housing units in various stages of completion are being constructed in Lagos, Kaduna, Port-Harcourt, Jos, Kano and Lafia.

Urban renewal programme aimed at improving existing neighbourhoods in core areas have been carried out in 18 cities across the nation. A total of about N20 million had been spent on the programme since 1992.

The Federal Government has provided through the National Sites and Services Programme over 15,000 plots at subsidized rate to the public. Over 250m has been committed to the programme in the last six years.

Improving Human Settlements Management

To address the goal of strengthening urban data systems, a National Index of Building Starts (NIBS) was established in 1994 to collect data on building starts and other housing indicators. The project is being undertaken by the Nigerian Institute for Social and Economic Research (NISER) in collaboration with the Federal Ministry of Works and Housing. Regional Workshops have been held on the use and implementation of NIBS.

Several policies have been adopted by government to improve Urban Management. These include:

- (i) The National Urban Development Policy formulated in 1992 to provide guidelines for urban development and management. Some of the dictates of the policy that have been achieved are:
 - * establishment of the Urban Development Bank
 - * promulgation of the enabling law for the establishment of physical planning units at all levels of government.

(ii) Infrastructure Development Fund

Through a U.S. \$180 million financial assistance from the World Bank, the Infrastructure Development Fund financed urban development projects in 15 States of the Federation. The loan from the World Bank was matched with 25% counterpart fund sourced locally. The projects cover storm drainage, sanitation, urban roads rehabilitation, water and solid waste management, market development, water rehabilitation, motor part development, river training/channelization, street lighting.

(iii) Sustainable City Programme

Further to the achievement of the goal of improving urban management, the country is participating in the sustainable cities programme under the UNCHS (Habitat)/World Bank/UNDP urban management programme (UMP). Under the programme, the Sustainable Ibadan Project (SIP) is being implemented. Through the initiative, Local Governments, NGOs, CBOs and private individuals are encouraged to participate and contribute to urban improvement and management. The process of replicating the sustainable city programme has already begun. Two other cities, Kano and Enugu have commenced their projects. The sustainable Kano Project has already prepared the Kano Environment profile study forming the basis for consultative actions on the management of Metropolitan Kano.

(iv) Capacity Building

Towards enhancing the management capacity of agencies responsible for urban development, technical assistance for human resource development have been received. Under the World Bank Infrastructure Development Fund Programme, Officers of State and Federal agencies were trained in various aspect of urban management and computer literacy. Supply and installation of computer hardware and software were also sponsored. Other international agencies that have offered training assistance include UNDP, UNEP, UNCHS and UNICEF.

Promoting Sustainable Land use Planning Management

The following have been put in place to promote sustainable land use, planning and management:

Land Use Act

Efforts have been made to provide land requirements for human settlement development through environmentally sound physical planning and land use. A major action in this direction is the on-going review of the 1978 Land Use Act. The review is geared towards making land resources more readily accessible for sustainable human settlement development. A new statute will be put in place after the review.

Federal Land Registry

To facilitate the registration of all titles to Federal Government land throughout the country the Federal Land Registry has been established. The Registry is to be computerised.

Urban and Regional Planning Decree

The Nigerian Urban and Regional Planning law was promulgated in 1992 to regulate and guide spatial planning at all levels of government. The statute has been adopted and is being implemented nationwide at the Federal Level as a model for other levels of government.

Promoting the Integrated provision of environmental infrastructure, water, sanitation, drainage and solid waste management

In addition to efforts of the Government toward the achievement of the objectives and goals of programmes under the Infrastructure Development Fund Programme, the Urban Basic Services Programme (UBS) is being undertaken in the country. The project involves the identification of core areas in some Nigerian cities and the packaging of improvement programmes targeted at women and children. This project is being financed with a \$3 million grant from UNICEF with matching grant from the Federal Government. Target communities to benefit from the programme have been identified in the cities of Lagos and Ibadan.

Promoting Human Settlement Planning and Management in disaster-prone areas.

As a measure towards mitigating the negative impact of natural and man made disasters, the Federal Government has adopted a pre-disaster planning line of action. In this regard the replenishment and reclamation of beaches in high wave areas is being undertaken.

Specifically the Federal Government has so far spent 200m on the replenishment of the sand along the Victoria Beach in Lagos. Proposal for a permanent solution to beach erosion through the construction of break waters has been accepted by the Federal Government. A total of 4 billion is being sourced for the project.

Coastal erosion control measures have been executed in many locations along the coast line of the Bight of Benin, and in the eastern part of the country where gully erosion is prevalent.

Promoting Sustainable Construction Industry Activities

To enable the construction sector to meet human settlement development goals while avoiding harmful side effects on human health, the Federal Government of Nigeria has established and commenced the enforcement of the National Building Codes and Standards. Besides, a National Construction Policy was promulgated in 1994 to ensure and enhance the following:

- the use of indigenous building materials and industries;
- adoption of standards and regulatory measures for increased use of energy-efficient designs; and
- use of labour intensive construction and maintenance technologies for the generation of employment.

The Nigerian Government has over the years also invested in raw materials resources development through activities of the Nigerian Building Materials and Road Research Institute (NBRRI). As a result, several local building material options which reduce construction cost considerably have been developed. Sources of funds for these research include government subventions and corporate donations.

Promoting Human Resource Development

Under the various programmes for the promotion of human resource development, Government in collaboration with such agencies as the World Bank, UNDP, UNEP, ILO, UNICEF, and UNCHS have sponsored foreign and local training programmes to acquaint operators of this sector with contemporary ideas, strategies and tools for human resources development.

The Family Support Programme (FSP) Shelter

Nigeria's efforts towards sustainable development since 1986 are marked by policy formulation and the establishment of agencies for the implementation. One of such efforts is the establishment of the Family Support Programme initiated by the First Lady of the Federal Republic of Nigeria, Her Excellency, Mrs. Maryam Sani Abacha. The Family Support Programme recognizes that one of the most important needs for the survival of any family is to promote a healthy family living; the provision of decent and affordable housing is paramount, as most low income families in the cities do not own houses because they cannot afford them.

The Family Support Programme also recognized the fact that women are handicapped in their access to land and property on which hinge the performance of their roles since they need a secure place to live in, carry out their subsistence farming and generate income. The widows and single women are worse off as they are denied rights to inheritance of landed property.

It is in this regard that the FSP set out among others the following objectives to ensure adequate housing for the less privileged in the society

- that the on-going Federal Housing Schemes should make provision for all government workers in Nigeria so that on retirement their families will have a place to live in;
- that the peculiarities of the disabled in our society should be taken into consideration when designing public buildings and houses to be occupied by them;
- that women be encouraged to form neighbourhood based associations which can serve as link agencies for partnership on any voluntary scheme in housing finance.

In all the States of the federation including the Federal Capital Territory, Abuja, the FSP has encouraged women to embark on subsistence and large scale farming of crops, vegetables and livestock. The Family Support Programme has procured and distributed agricultural inputs such as fertilisers, farm implements and improved seedlings to women farmers.

Other facilities for survival provided by the FSP at States level include:

- Rehabilitation Centres
- Widowhood Centres
- Home for the handicapped/disabled, abandoned and motherless children
- Psychiatric Asylums
- Resettlement Homes for the aged, disabled and destitute
- Leprosy Patients Homes
- Fish Farms
- Youth amusement and recreational centres and parks
- Medical and Health Centres
- Women and Children Multipurpose Development Centres
- Rural Water Schemes and deep well pumps
- Low cost housing schemes
- Agro processing and packaging centres.

Constraints to the Promotion of Sustainable Human Settlement Development

In its various efforts at attaining sustainable human settlement development several constraints to planning and implementation of physical development have been experienced. Though efforts are targeted at resolving these constraints it suffices to mention them:

- Rapid rate of urbanisation;
- Declining socio-economic standard;
- Funds limitation;
- Human resources deficiency;
- Fluctuating political will;
- Un-integrated policy focus;
- Dearth of base maps;
- Inadequate data base for planning and monitoring, and
- Insufficient foreign technical assistance.

Future Programmes to Promote Sustainable Human Settlement Development

The Nigerian Government is currently working on some programmes aimed at improving the human settlement development and management sector. These include:

- * Poverty alleviation programmes in collaboration with the World Bank and UNDP;
- * A programme support document for Governance in collaboration with UNDP;
- * A national strategy for the replication of the Sustainable City Programme in other Nigerian cities;
- * Replication of the Urban Basic Service (UBS) Programme in collaboration with UNICEF.

The Government intends to concentrate efforts in the near future in the following areas:

- * Capacity building for improved management,
- * Institutional/policy reforms,
- * Social re-orientation,
- * Increased participation of NGOs and private sector,
- * Promoting appropriate technologies.

FUTURE PLANS IN THE FIELD OF SUSTAINABLE HUMAN SETTLEMENTS

Mission statement

Achieve a state of environmentally sound human settlements free of slum conditions and in which all have access to adequate and affordable shelter, efficient infrastructure and services, which will foster sustainable economic growth, improved standard of living and well-being of all Nigerians.

Justification

Over the years, Nigeria has been experiencing a rapid rate of urbanization. In 1952, 10% of the population lived in urban centres with population of 20,000 people and above. This increased to 20% and 38% in 1970 and 1993 respectively. By the year 2010, 60% of the population will live in cities. On the growth in size of cities, the rate has been equally rapid. In 1960, Lagos and Ibadan were the only two cities with more than 500,000 people. These have increased to 9 in 1980. In 1990, about 14 cities have a population of over one million. These are expected to rise to 18 by the year 2000.

The problems and challenges posed by rapid urbanization in the country are immense, among these are inadequate shelter resulting in over crowding, inadequate and inefficient transportation systems, infra-structural facilities and services, development of slum areas in cities such as Lagos, Ibadan, Kano and Port Harcourt and generally poor environmental conditions. All these problems need to be redressed to improve the well being of the people.

Strategy

1. Adopt an integrated approach to the provision of water, electricity, sanitation, drainage and solid waste management.
2. Ensure appropriate implementation and monitoring of master plans for major towns where they exist and preparation and implementation of new ones where they are non-existent or out of date.
3. Raise awareness on environmental issues needed for sustainable human settlements.
4. Commence and ensure the implementation of the National Plan of Action for sustainable human settlements development in Nigeria.
5. Improve rural economies through the development of cottage and agro-allied industries to create job opportunities for rural dwellers so as to stem the tide of rural-urban migration.
6. Provide not less than 75% of rural communities with social amenities to stimulate and sustain self-reliant development to curb rural-urban migration.
7. Ensure effective implementation and enforcement of all existing relevant sectoral laws, standards and regulations that make for sustainable human settlements.
8. Institutional strengthening with a view of making them more responsive and accountable.
9. Encourage private sector and community participation in urban renewal activities, housing and infra-structural provision.
10. Replicate the Sustainable Cities Programme(SCP) in major urban centres in Nigeria. The SCP emphasizes the two-way relationship between development and environment which promotes better awareness and understanding of the priority issues to be addressed in urban environment and development, better understanding of modern urban and environmental management approaches and the most effective and lasting impact.
11. Develop and implement guidelines and put in place appropriate institutional arrangement for effective land resources management.
12. Establish a National Human Settlement Data Bank (SHSDB) to provide baseline information that can be used to better plan for sustainable human settlements.
13. Renewal of all existing slum areas and prevent conditions that may lead to the development of new ones.
14. Promote the development of parks and gardens and ensure retention of adequate natural green areas within human settlements to maintain ecological balance and amenity.
15. Promote efficient and affordable transportation within urban and rural areas.
16. Promote easy access to land, especially for low income families.
17. Improve the revenue base for human settlement management.

FUTURE PLANS FOR EMERGENCY PREPAREDNESS AND MANAGEMENT

Mission statement

Be able to mitigate promptly the negative impacts of natural and man-made disasters on human settlements, national economy and the environment.

Justification

Nigeria has had a number of emergency situations arising from disasters - natural and man-made. The natural phenomena include tropical storms, land erosion, windstorms, floods, drought, desertification, human diseases, coastal erosion, livestock diseases, crop pests and diseases, wildfire, harmattan haze and landslides. Other potential hazards include earthquakes and volcanoes. The major man-made hazards include civil strife; road, water and air traffic accidents; and technological episodes such as oil spills, hazardous wastes dumping and industrial accidents.

All of the above call for urgent action for the strengthening of our emergency preparedness to reduce our peoples' vulnerability and cushion the impact of disasters on our settlements, economy and environment.

Strategy

- a) Prepare comprehensive hazard maps and vulnerability analysis for the country by;
 - i. compiling historical data of disaster occurrence.
 - ii. analysis of meteorological, seismological, agricultural and environmental records.
 - iii. employing satellite imagery and the GIS system to prepare the hazard maps.
- b) Establish very effective early warning systems for meteorological, geological, biological, social and industrial hazards by;
 - i. enhancing the meteorological services.
 - ii. effective monitoring of pests and disease epidemics.
 - iii. resuscitation of seismographic stations and the existing seismological centres.
 - iv. development of reliable biological indicators.
 - v. building of a viable network for early warning information dissemination.
- c) Develop and maintain prompt emergency response mechanisms and contingency plans by:
 - i. making an inventory of all existing resources for emergency response for easy marshaling at times of disasters.
 - ii. establish a body to coordinate emergency response to reduce duplication of efforts and enhance accountability.
 - iii. formulate a national emergency policy and an emergency plan.
- d) Mount a sustained public awareness and education programme hazard preparedness by:
 - i. engaging military and para military forces as well as voluntary organisations in drills on emergency response including search and rescue etc.
 - ii. preparing and integrating emergency preparedness into school curriculum.

STATISTICAL DATA/INDICATORS			
	1990	1995	
Urban population in % of total population			
Annual rate of growth of urban population (%)			
Largest city population (in % of total population)			
Other data			

AGENDA 21 CHAPTER 8:

INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING
 (See pages vii and viii at the beginning of the profile)
NATIONAL PRIORITY:

STATUS REPORT: Prior to UNCED, Nigeria through the Federal Environmental Protection Agency (FEPA) had achieved the following major milestones in environmental protection and conservation of natural resources:

Development of National Policy on Environment

The National Policy on the Environment was launched by Government on 27 November, 1989. It contained specific guidelines for achieving sustainable development in fourteen vital sectors of the nation's economy, namely: Human Population, Land Use and Soil Conservation; Water Resources Management; Forestry; Wildlife and Protected Natural Areas, Marine and Coastal Area Resources, Sanitation and Waste Management, Toxic and Hazardous Substance, Mining and Mineral Resources, Agricultural Chemicals, Energy Production, Air Pollution, Noise Working Environment, Settlements, Recreational Space, Green belts, Monuments and Cultural Property. The Policy is currently being reviewed by the Government in line with the challenges of the Vision 2010 and Agenda 21 programmes.

Establishment of National Council on Environment

The National Council on Environment (NCE) meant to provide a forum for the consultation and harmonization of environmental management matters throughout the federation was established in 1990. Membership includes all the Commissioners responsible for the environment in all the States of the Federation as well as the Secretaries to the State Governments. Some of the achievements recorded include the harmonization of environmental protection institutions throughout the Federation and the creation of State Environmental Protection Agencies in all the States of the Federation.

National Advisory Committee (NAC) on Agenda 21

Following the Regional Workshop on the Implementation of Agenda 21 in Africa held in Abuja, Nigeria, the Federal Government in 1993 established a National Advisory Committee on the Implementation of Agenda 21. The Committee is made up of professionals from relevant private sector and government organizations, the academic community, Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs). The Committee is to advise the Federal Government of Nigeria on sustainable development issues and strategies for implementing the provision of Agenda 21.

National Environmental Policy Guidelines and Standards

As part of government efforts towards integrating environmental concerns into development, the Guidelines and Standards previously approved prior to UNCED (1992) were reviewed through Decree 59 of 1992. Apart from expanding the mandates of FEPA, the Decree legalized the proposed Guidelines and Standards for Environmental Pollution Control, the Regulations on Effluent Limitations, Pollution Abatement in Industries, as well as Regulations for the Management of Solid and Hazardous Wastes.

The Environmental Impact Assessment (EIA) Law was enacted by the Federal Government in 1992 as a tool for integrating environmental concerns into all major activities throughout the country. Procedural and Sectoral Guidelines for Agriculture and Rural Development, Oil and Gas, Infrastructural Manufacturing and Mining activities in the country were also put in place.

Environmental Policies and Programmes of the Ministry of Petroleum Resources

Although the main thrust of Nigeria's petroleum policy is to increase the hydrocarbon reserve base through vigorous exploration, spurred by flexible and competitive fiscal incentives, environmental issues were accorded considerable prominence in policy design. The Ministry of Petroleum Resources, through various Petroleum Acts and subsidiary legislation ensures that the petroleum industry carries out its activities safely and in an environmentally sound manner. Consequently, the Ministry has, within the past two decades, established measures to address the environmental problems associated with oil exploration, production, processing, transportation, storage and marketing in the country. Some of these include:

- (i) Promotion of environmental awareness and consciousness not only amongst the oil operators but in the general public through the organization of the Biennial Seminar on the Petroleum Industry and the Nigerian Environment. The oil companies are also encouraged to organize annual Safety, Health and Environment Week in their operational areas to sensitize their work force.
- (ii) Ensuring that all companies should have effective contingency plans to combat minor to medium oil spills and coordinating the establishment of a national oil spill contingency plan for major or disastrous oil spills. It is mandatory to report all oil spills promptly to the Ministry.
- (iii) Carrying out environmental baseline studies and establishing oil pollution monitoring stations in high risk areas.
- (iv) Establishing guidelines and standards for environmental monitoring and control in the petroleum industry including, carrying out Environmental Impact Assessments (EIA) and Environmental Evaluation Reports (EER) on new projects, control of chemicals such as dispersant and drilling fluids through mandatory testing for toxicity effects on aquatic organisms and measurement of biodegradability.
- (v) Encouraging the remediation of polluted or contaminated sites through the use of safe and environmentally sound technologies.
- (vi) Promotion of the utilization of associated gas through the implementation of various projects such as the OSO Condensate Project, the OSO Natural Gas Liquefaction (NGL) Project, the Escravos Gas Project and the Nigeria Liquefied Natural Gas (NLNG) Project. Other projects designed to encourage the utilization of gas with the attendant benefit to the environment, are the Escravos-Lagos Pipeline Project, which supplies gas to Egbin Power Station and to some industrial consumers in Shagamu and Lagos, and the proposed West African Gas Pipeline Project which is to supply gas to Benin Republic, Togo and Ghana.
- (vii) Promoting the use of clean fuels, by encouraging:
 - (a) a shift from kerosene and wood stove to gas-fired stoves,
 - (b) gradual introduction of Compressed Natural Gas (CNG) for vehicles as a substitute for petrol
 - (c) phasing out of lead from gasoline and use of other oxygenates such as methanol and methyl-tertiary-butyl-ether (MTBE).

National Energy Policy

The Government through the Ministry of Science and Technology, has prepared a National Energy Policy that places emphasis on the exploitation of Nigeria's renewable and alternative energy sources - wind, solar and biomass, and provides guidelines for environmental protection in the exploitation of Nigeria's fossil energy sources. It will soon be enacted into law.

A Nuclear Safety and Radiation Protection Legislation was enacted in 1995, which sets standards and procedures for the safe use of nuclear radiation.

CONSTRAINTS TO IMPLEMENTATION OF AGENDA 21

The identified constraints to the effective implementation of Agenda 21 are briefly discussed below:

Uncoordinated Policy and Legal Instruments in Environmental and Natural Resources Conservation in Nigeria

The existence of a large number of disparate legislation and policy documents directed at individual environmental or resources issues or problems is a major constraint to policy implementation.

Weak Database

Inadequate/inaccurate data remain a major constraint to policy formulation, project planning and implementation in environment and natural resources conservation in Nigeria. The inadequate and unsystematic inventory of Nigeria's natural resources is responsible for the dearth of detailed technical data that could be used to plan the management and national utilization of the resources.

Inadequate Enforcement

Apart from the inadequacy of both the policy and legal instruments, the enforcement of the existing environmental rules and regulations has been problematic especially as there are no clear demarcation of responsibilities between the Agency, Federal and State Ministries the inadequacy of the monitoring and enforcement mechanisms.

Institutional Problems

There is inadequate institutional capacity and inter-sectoral communication and co-ordination to manage the environmental and resource management network throughout the country.

Funding

The major constraint to the implementation of Agenda 21 remains the financial provision for implementation. The average annual incremental cost of implementing Agenda 21 in developing countries have been estimated at 600 billion dollars out of which only 125 billion dollars or 25% is expected to be contributed by developed countries. This implies that a larger proportion of the money is to be sourced by the developing countries including Nigeria. The country's high debt servicing profile makes this impracticable. Currently about one-third of the annual budget goes into external debts servicing. Accordingly, implementation of Agenda 21 in Nigeria will require the assistance of relevant international, multilateral and bilateral agencies, such as the United Nations, the World Bank/IDA, the International Monetary Fund (IMF), and the Global Environmental Facility (GEF).

Possible assistance options that may be considered by the IMF and the World Bank/IDA is the conversion of the country's debt service flows into investments in environmental management and protection programmes and projects.

Manpower

Inadequate of trained manpower in the area of integrated environmental management is a major constraint. Also, there is inadequate awareness on the importance of environment and natural resources management especially in resource accounting.

Technology

Available technology in the country appears grossly inadequate to meet with the challenges of implementing Agenda 21 and the programme of transfer of technology is yet to take off fully.

Inadequate public awareness

Lack of appreciation and involvement of the general public in environment related issues and development as well as insufficient popular participation in project design and implementation will for some time constrain the attainment of the goals of Agenda 21.

AGENDA 21 AND VISION 2010

During the preliminary appraisal of the implementation of the national Agenda 21, several gaps were identified. The observed gaps have been incorporated into the laudable programmes of VISION 2010. Some of the issues which are to be addressed under the programme are briefly discussed in the section that follows.

The Federal Government of Nigeria recently mapped out plans and strategies toward the implementation of Agenda 21. The plans and strategies will be spelt out in the detail final report of the VISION 2010 committee recently inaugurated by the Government. It is a broad programme of actions aimed at rapid development of the country in terms of economic prosperity, political stability and social harmony.

Recognising that Nigeria is confronted by major environmental problems, the most important of which are: deforestation, drought and desertification, soil and coastal erosion, water pollution, oil pollution, water hyacinth invasion, loss of biodiversity, flooding, urban decay and industrial pollution one important Sub-committee of VISION 2010 focuses on redressing these major existing environmental problems in line with the goals of Agenda 21.

Studies have indicated that the country would suffer large ecological and economic losses if these major environmental problems continue unchecked. Initial estimate indicate that the cost of unsustainable development for Nigeria may be as high as US \$5.1 billion per year. Corrective action and new investment programmes are needed now to reduce and eventually prevent these losses.

Measures aimed at redressing the major environmental problems affecting Nigeria are examined briefly below with relevant mission statements and strategies.

FUTURE PLANS FOR STRENGTHENING, IMPROVING AND COORDINATING THE IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT

Justification

In order to build on the gains so far achieved in environmental protection efforts and ensure that environmental protection programmes are anchored on solid foundation, the following should be implemented as part of the necessary pre-requisites for the achievement of sustainable development in Nigeria:

Strategy

1. Integrating environment into development planning and decision-making.
2. Strengthening the legal basis for sustainable development.
3. Creating and improving capacity for Sustainable Development.
4. Harmonizing Federal, States and Local Governments responsibilities for environmental management.
5. Adopting and promoting the use of existing environmentally friendly technologies.
6. Promoting Research and Development of environmentally Sound Technologies.
7. Forging viable Partnerships among various Stakeholders and Interest Groups both at National and International levels.
8. Managing Environmental Information and education to generate adequate public awareness for Decision Making.
9. Internalizing Environmental Costs through the use of Economic Instruments in the management of Natural Resources.
10. Alleviating Poverty.
11. Improving the funding for Sustainable Development.

FUTURE PLANS FOR STRENGTHENING THE LEGAL BASIS FOR SUSTAINABLE DEVELOPMENT

Justification

Towards achieving sustainable development, it is necessary to enhance the capacity of FEPA and other responsible organizations to enforce environmentally friendly practices.

Strategy

1. Expand the fundamental objectives and state policy in the constitution to include the clause on sustainable development as a national goal.
2. Government to adopt the "Polluter Pays Principle" as an instrument of environmental protection policy and management strategy.
3. Ensure speedy translation of international agreement protocols and conventions on environment and consignment into national laws and regulations and ensure their enforcement.

FUTURE PLANS FOR INTEGRATING ENVIRONMENT INTO DEVELOPMENT PLANNING AND DECISION-MAKING

Mission Statement

To integrate environment into economic and sectoral policies, planning and decision making processes.

Strategy

1. Improve the provisions of the Environmental Impact Assessment (EIA) Decree 86 of 1992, and ensure its proper implementation.
2. In line with the current practice at the Federal level, State Governments should establish Sustainable Development Units (SDU) in their Budget and Economic Office with the same responsibility and function as the S.D.U. in the National Planning Commission and the Urban and Regional Planning Department of the Ministry of Works and Housing to enable land use management for sustainable development.
3. Adopt the system of national accounting to adequately reflect the extent to which economic development activities have increased or decreased environmental pollution and natural resources on which future economic and social development depend.

FUTURE PLANS HARMONIZING FEDERAL AND STATE RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT

Justification

To ensure optimum use of our limited technical and financial resources and to achieve optimum results in meeting the national goals and guidelines for environmental protection and sustainable development, the following should be the role of the Federal, State and Local Governments in Environmental Management.

Federal Responsibilities

The Federal responsibilities and functions should include:

1. the establishment of environmental quality standards and regulatory guide lines and procedures for implementing, enforcing and evaluating them;
2. the establishment of guidelines and procedures for project and policy environmental assessment screening and environmental impact assessment as well as the necessary capacity to initiate and review them;
3. the establishment of a Federal Environmental Action Plans for execution by Federal Institutions;
4. the establishment of consistent guidelines for state environmental management plans and action programmes and the coordination of national and inter-State programmes, projects and exchanges of information on environment;
5. the review of federal policies which might have significant adverse impacts on the environment or natural resource base;
6. the collection, analysis and distribution of data of relevance to environmental impact assessment policy analysis and environmental monitoring within the country as well as the preparation of periodic national reports on the state of the environment;
7. the allocation and evaluation of the use of Federal funds for special environmental restoration, protection and improvement programs and projects;
8. the establishment and coordination of exchanges of environmental information and expertise with relevant international agencies and international nongovernmental organizations;
9. the development of special training programs for upgrading knowledge and skills in the various disciplines required for environmental management.

State and Local Governments Responsibilities

State responsibilities should include the following:

1. the monitoring and enforcement of environmental quality standards and regulations as may be designated by FEPA to states;
2. the regular assessment of environmental conditions and trends in rural areas and identification of programs and actions needed to reduce or avoid further environmental degradation and pollution;
3. the application of the national environmental assessment guidelines and procedures for all development policies and projects likely to have adverse environmental impacts within the State;
4. the development of a State environmental management plan with priorities for action to reverse environmental degradation, protect human health and the environment and accelerate progress towards environmental improvement and sustainable development;
5. the development of contingency plans and capabilities to respond quickly and effectively to environmental emergencies such as natural disasters or major industrial accidents;
6. the collection, analysis and distribution of data of relevance to environmental impact assessments, policy analysis and environmental monitoring within the State and Local governments;
7. the preparation of periodic reports on the State of the Environment in their State or community for submission to the National Council on the Environment.

FUTURE PLANS FOR FORGING VIABLE PARTNERSHIPS AMONG VARIOUS STAKEHOLDERS AND INTEREST GROUPS BOTH AT NATIONAL AND INTERNATIONAL LEVELS**Justification**

Government might be well committed to the objectives, policies and mechanisms for achieving sustainable development, but it will take the commitment and genuine involvement of all groups in society to make this goal a reality. It requires the forging of a partnership of not only shareholders, but the stakeholders in environmental issues as well. Broad public participation in policy development combined with greater accountability, is essential to achieving sustainable development. Individuals, groups and organizations need to know about and participate in environment and development decisions, particularly those which can affect their communities.

For people to make informed decisions, they must have access to all relevant information on environment and development issues. This includes information on products and activities that have or are likely to have significant impact on the environment, and information on environmental protection measures.

Considering the transboundary nature of environmental problems and the fact that no nation on its own can achieve sustainable development, there is also the need to foster bilateral and multilateral cooperation to facilitate exchange of ideas and the transfer of sound environmental technologies and concerted global action affordable and adaptable to local needs.

Strategy

1. Mount very effective machinery to enhance environmental awareness through public enlightenment and environmental education at all levels of the society.
2. Establish environmental data banks and information networks.
3. Create fora for building consensus and for exchange of information among all stakeholders and interest groups on sustainable development decisions.
4. Strengthen/establish mutually beneficial relationship with bilateral and multilateral environmental bodies including regional and international NGOs.

AGENDA 21 CHAPTER 9: PROTECTION OF THE ATMOSPHERE

NATIONAL PRIORITY:**STATUS REPORT:**

The Montreal Protocol was ratified in 1988. United Nations Framework Convention on Climate Change was ratified in 1994.

The post-UNCED activities of the Nigerian government in the area of protecting the atmosphere include:

Background Atmospheric Pollution Monitoring

The Federal Government of Nigeria established in 1993 a Regional Environmental Monitoring Station at Oshogbo under the auspices of the World Meteorological Organisation (WMO) Global Atmospheric Watch (GAW) programme. The station monitors background atmospheric pollution. About 15 elements including surface ozone carbon dioxide, chemical composition of rain water, dry and wet depositions, dust loading, solar radiation and other conventional meteorological elements are currently being observed. The station has the potential of being upgraded to a global monitoring station capable of monitoring other greenhouse gases, such as NO₂, NO, CH₄ and sulphur.

Total Column Ozone

The Department of Meteorological Services is monitoring Total Column Ozone with the Dobson Spectro Photometer since March 1993 at Oshodi, Lagos. This is the only such measurement taking place in Sub-Sahara Africa. The average value (about 240-280 Du Dobson Units) conforms to the expected value for the equatorial belt.

Data Bank

The Department is in the process of computerising its data bank.

Phasing out of Ozone Depleting Substances

In compliance with requirements of the Montreal Protocol and the provision of the global Agenda 21, the phasing out of Ozone Depleting Substances in Nigeria has been given priority among the programmes being implemented by the Federal Environmental Protection Agency. The on-going activities include:

- I. Institutional strengthening for the phase-out of ODSs in Nigeria with a \$3,000,000.00 grant from the Multilateral Fund (MF) spread over a period of 3 years to assist Nigeria set up an effective and lasting institutional mechanism for coordinating national efforts for the protection of the Ozone Layer.
- II. CFC phase-out in Debo Industries Ltd. and Thermocool Engineering PLC with a combined grant of US \$2,840,598.00 from the MF.
- III. CFC phase-out in 4 flexible and rigid foam industries namely, Eleganza, Teju foam, Sara foam and Royal foam with a combined grant of US \$540,000.00 from the MF.
- IV. The Country Programme for ODS phase-out is being prepared with a grant of US \$ 120,000.00 from the Multilateral Fund.

Greenhouse Gas Inventory

The inventory of Greenhouse gases and determination of their concentration in the atmospheric funded by the United Nations Environmental Programme (UNEP) commenced in 1993. It involved the determination of the concentration of carbon dioxide, oxides of nitrogen and sulphur and other chloroflourocarbon gases in the country. Due to delays at the implementation phase, funding for the project was terminated.

Climate Change

The FEPA-University of Technology, Minna, Niger State Linkage Centre undertakes training and research in the areas of climate change and water resources. Specifics include:

- * Climate Science and Data Bank;
- * Assessment of the impact of Climate Change on water resources development;
- * environmental monitoring of hydro-climatic elements for special locations such as dams and reservoirs for power generation;
- * Early warning systems and vulnerability assessment of climate change impacts; and
- * Conservation of ecological systems of water bodies.

A proposal on capacity building for the development of a National Strategy and Implementation of the Country's Obligation to the United Nations Framework Convention on Climate Change (UNFCCC) has been approved for funding by the Global Environmental Facility (GEF). The programmes will cover greenhouse gases, public awareness, impact assessment, adaptation options, integrating climate concerns into planning processes and identification of abatement practices.

Promotion of Environmentally Friendly Energy Practice

Under this programme, the Ministry of Science and Technology through its Energy Centres has supported research on the use of solar and wind energy. It is envisaged that by the year 2010 the following would have been produced and distributed:

- 15,000 solar water heaters;
- 450 solar stills;
- 225 solar dryers;
- 10-village wind energy electrification projects;
- 11,000 photo-voltaic water pumping stations;
- 2,000-village solar energy electrification project;
- 20,000 solar power refrigerators for rural health centers.

Global Environment Monitoring Systems(GEMS)/Air Nigeria

GEMS/Air Nigeria is a component of the Global Environment Monitoring System whose specific goal is to monitor and assess urban air quality. The programme commenced in 1995 with FEPA as the focal point.

The programme focuses on:

- i. air pollution in major cities such as Lagos, Kano, Kaduna, Port Harcourt, Warri, Ibadan etc.,
- ii. capacity building in forms of training and provision of laboratory equipment,
- iii. establishment of pathways for emission in order to evolve spatial and temporal emission models for urban centres in Nigeria based on long-term measurement of air quality at designated monitoring network locations.

As of now, a National GEMS/Air Implementation Committee has been constituted and major industrial cities have been identified. A few studies have been commissioned to assess the constituents of air in major urban centres of the country.

Energy and Mineral Resources

Wood, petroleum, coal, gas and water are the main energy sources in the country. Although solar and wind energies are abundant, they remained untapped in commercial quantity. The principal energy sources is fossil fuels with hydrocarbons accounting for over 90% of Nigeria's export earnings and 80% of government revenue.

The principal mineral resources include fossil fuels (e.g. Petroleum, natural gas, coal and lignite), metallic minerals (e.g. tin, columbite, iron, lead, zinc, gold), radioactive minerals (e.g. uranium, thorite, monazite and zircon) and non-metallic minerals (e.g. Limestone, marble, gravel, clay, shale, feldspar etc.).

The overall management of the country's mineral and natural resources remains the primary assignment of the government through its various organs. Their development is, however, either by individuals, private corporations or government organizations. All these developmental activities, impact on the state of the environment and have contributed to environmental deterioration.

FUTURE PLANS FOR INDUSTRIAL AND AIR POLLUTION MANAGEMENT

Mission Statement

Attain full compliance with pollution abatement standards in industries, motor vehicles, air crafts and generating plants.

Justification

The unpleasant side effect of industrialization is the waste generated from industrial processes. These include liquid, gaseous, noise, heat, and solid wastes. Several reports confirm the non-inclusion of waste management provisions in industries sited in Nigeria. However, since the inception of the Federal Environmental Protection Agency, progress has been made in enacting laws and creating awareness of the need to install waste handling facilities in industries. These efforts have yielded fruits and the compliance level of industries with national industrial waste management requirements stand at about 20%. This is good progress in 2 years of the expiration of the moratorium for compliance. The progress should continue and mechanisms to achieve 80% compliance is being proposed for emplacement.

Another source of pollution is gaseous emissions, most especially from fossil fuel burning processes and processes using gas. The obnoxious gases of concern include CO, NO_x, SO_x, VOC, HC, ODS, smoke and particulates originating from exhausts of vehicles, generators, aircraft, boilers, etc.

The pollution source in this Sector is a major health hazard in view of the fact that around these facilities, the highways and runways, the levels of the gases emitted are sometimes 10 times higher than permissible levels in Nigeria, Ghana, Europe and many other countries. In order to reduce the levels of these gases to tolerable ambient limits. It is important to single out these sources of gaseous emissions and maintain them at the level of full compliance by the year 2010.

Strategy

1. review existing national guidelines and standards to include vehicles, generating sets, aircraft etc.;
2. intensify public enlightenment campaign at all levels on the benefits of adequate maintenance, retrofitting, adopting effective technology, ensuring efficient energy use and increased cost benefit;
3. maintain effective data base on industries and compliance status;
4. maintain register of technologies, vehicles, generating sets, aircrafts for approval for manufacturing and importation;
5. introduce and enforce emission control certificates for vehicles, generating sets, aircraft by 1999;
6. eliminate ODS consuming processes;
7. enforce laws relating to the siting of new industries;
8. instal a minimum of primary treatment on all new industries;
9. build secondary central treatment facilities in all major industrial estates in cities such as Lagos, Kano, Kaduna, Port-Harcourt, Warri, Ibadan and Enugu by 2005;
10. invoke polluter pays principle immediately;
11. ensure 100% waste segregation, recycle and re-use by 1999;
12. promote research in Best Available Technology Effective for Local Adoption (BATELA);
13. make Eco-labelling compulsory for all products by the year 2000;
14. promote commercialization of sanitary landfill and incineration as appropriate;
15. encourage citizen empowerment in pollution control;
16. introduce green technologies and promote Environmental Management Systems (EMS) in all industrial facilities;
17. create environment fund for soft loans as economic incentives for environmentally friendly industries;
18. promote tax rebates for industries installing pollution abatement facilities.

FUTURE PLANS FOR THE RATIONAL USE OF OIL AND GAS RESOURCES

Mission statement

Produce oil and gas in an environmentally responsible and socially non-disruptive way, endorse long term optimum returns from its exploitation and invest its proceeds in the development of sustainable societal objectives and projects.

Justification

The oil and gas sector has continued to be the backbone of the Nigerian economy, contributing over 90% of the nation's foreign exchange earnings and at least 80% of the GDP. This situation is likely to continue unchallenged in the near future and well into the third millennium. The development of the oil and gas sector is, therefore, of utmost importance, especially since virtually all of the activities in both upstream and downstream-sectors are not only pollution prone, but readily provoke social discord.

Strategy

1. develop and implement environmental assessment methodology, taking into account the economic, socio-cultural and conservational values of the environment;
2. develop a comprehensive set of measures to mitigate any negative impact;
3. ensure strict compliance with Environmental Impact Assessment Laws;
4. implement Health, Safety and Environmental Management Systems and Quality Assurance Control;
5. establish comprehensive waste management programmes;
6. implement and continually update fully operational oil spill prevention programmes;
7. enforce environmental risk assessment, to predict eventual consequences of accidents and take appropriate mitigation measures;
8. design an appropriate facility and operational procedures;
9. implement and continually update the national oil spill contingency plan for control, containment and cleanup;
10. review and implement procedures to timely and adequately address the damage to the third parties;
11. encourage the general public to report emergency incidents to regulatory bodies;
12. ensure an internal and external market for gas;
13. stop gas flaring;
14. put in place continuous public awareness programme;
15. ensure full compliance with legislation and Regulations and Standards of the Federal Environmental Protection Agency (FEPA) and Department of Petroleum Resources;
16. plan long term rational exploitation of both oil and gas reserves and draw up investment strategies.

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
CO ₂ emissions (eq. million tons)				
SO _x *				
NO _x *				
CH ₄ *				
Consumption of ozone depleting substances (Tons)				
Expenditure on air pollution abatement in US\$ equivalents (million)				
Other data				

AGENDA 21 CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

NATIONAL PRIORITY:

STATUS REPORT:

Soil and Land Resources

Soils in Nigeria are variable due to variations in the geological formations and climate. More predominant in the country is the utisols which covers about 46% of the total area of the country. Though it is of moderate to low productivity, it performs very well under good management. Only 6% of the country is covered by entisol - the high productive soil.

Nigeria has also been classified into 8 Land Resources Zones, namely: semi arid, dry sub-humid, sub-humid, humid, very humid, ultra-humid, plateau and mountain zones. Most, if not all of these ecological niches have witnessed pressure resulting from uncontrolled socio-economic activities leaving a large proportion of the land barren. From ecological and economic standpoints, soil erosion is probably the most serious environmental problem affecting the nation's soil and land resources.

The policy objectives and mandate of the Department of Agricultural Land Resources established in 1980 have been refocused after UNCED to evolve sound planning and management of land resources in the country in line with the provision of Agenda 21. Several activities which are on-going in this programme area are highlighted below.

Soil Survey and Land Evaluation Programme

The Department has already completed Phase One of this project, which include reconnaissance surveys at a scale of 1:650,000 and 1:1,000,000 in 1990. In view of the objective of the World Food Summit, Phase Two of the project is focusing on semi-detailed and detailed surveys at scales of 1:50,000 and 1:10,000 respectively. The more detailed surveys will provide more reliable characterization, classification and detailed information necessary for the prioritization of farming operations and utilization of lands for what they are best suited and optimum conservation of land resources. All the data collected will be stored at a National Soil Museum under the National Soil Reference Information Centre (NSRIC) and used as a reference base for students, researchers, farmers and all land users desiring information on the nation's soils and environmental studies.

National Soil and Fertilizer Testing Programme

The existing regional soil laboratories located in Kaduna, Ibadan and Umudike are to monitor the soil fertility levels and quality of Nigeria's soils. These laboratories will be equipped for the following objectives:

- (i) offer routine services in soil, plant and fertilizer analyses to farmers and other land users,
- (ii) provide back-up services to National Agriculture, Land Use, and Environmental Programmes,
- (iii) monitor soil degradation due to nutrient depletion in soil, plant and the environment.

It is expected that the laboratories, when fully operational, will also carry out water quality tests.

Soil Fertility Management and Fertilizer Development Programme

Various soil fertility management and fertilizer development projects have hitherto been carried out in different parts of the country. Efforts are now being made to ameliorate special problems of acid soil with low pH value which exists in the soils of the south eastern zone of the country. Medium level technology viz: application of lime, organic matter and industrial waste is being adopted to ameliorate this condition in order to grow crops profitably.

Soil Conservation Programme

Apart from the special problems of soil acidity mentioned above, there is a need to conserve these soils from being degraded, either by soil and wind erosion or the intensive activities of man in the area of uncontrolled deforestation. One of the technologies being used to monitor this problem is sheet erosion control trails, which is aimed at monitoring the occurrence, intensity and mode of control of sheet erosion on farmlands. Trials of this nature have successfully been completed in the parts of the Eastern States, while similar trials are being initiated in the north-western part of the country.

In the course of implementing this projects, natural waterways would be enhanced while drainage channels would be improved. Grass bund, wicker works and use of vetiver grass as well as other agronomic measures like crop rotation would be introduced in an effort to create a viable environment for profitable food production.

Geographic Information System

The objective of this programme is to ensure adequate and regular monitoring of environmental components in soil resources management. The programme is being implemented under bilateral co-operation with the World Bank under the World Bank Assisted Environmental Management Project for Nigeria. The Geographic Information System (GIS) will enable increased capacity for monitoring environmental components. Arrangements, are in progress to install Soil Erosion Monitoring Posts (SEMP) in the six ecological zones of the country with Headquarters in Kaduna, which is in the Sudan savanna zone. The efforts also include local and overseas training of technical and managerial manpower needs.

FUTURE PLANS ON EROSION CONTROL

Mission statement

Stabilize all gully and coastal erosion sites nation-wide, restore all amenable erosion sites and enforce management practices aimed at preventing/minimising the incidence of erosion.

Justification

It is estimated that over 90% of the total land area of Nigeria is under severe sheet, rill and gully erosion with the severest gully erosion accounting for 80% of Nigeria's total land area. Sheet erosion leads to impoverishment of the soil as nutrients are washed away, loss of livelihood as farmlands become wasteland thus increasing the menace of rural-urban migration and pollution and siltation of available sources of drinking water. Human lives and properties especially buildings are endangered as they collapse into gullies. There are currently over 2,000 active gully erosion sites spread around the country.

Gully erosion is widespread in Abia, Imo, Anambra and Bayelsa States while coastal erosion is commonly found along the nation's 853km long coastline with estimated mean shoreline retreats of 2 - 30 metres per year. The worst affected areas include Victoria Beach in Lagos, Awoye/Molome in Ondo State, Ogborodo/Esravos and Forcados in Delta State, Brass in Bayelsa State and Ibeno - Eket in Akwa Ibom State. In recent years, the Federal Government spent almost 91.0 billion on the periodic rehabilitation aid sand replenishment projects of the Bar Beach in Lagos. In the far north where vegetation cover is scarce, wind erosion is a common land degradation factor which frequently sweeps away the top soil.

Erosion is a continuous process. Once it sets in, there is urgent need to stabilize all existing erosion sites if we are to stem the rate of soil degradation and loss of lands, forest resources and property and also restore all those erosional badlands and gullies that are amenable to restoration.

Strategy

1. Prepare and implement a comprehensive national policy on soil and coastal erosion and flood control.
2. Formulate and enforce regulations for soil and water conservation especially in erosion-prone areas.
3. Carry out national watershed delineation and characterization for use as a basis for development of an aggressive management and enforcement programme to protect and maintain the quality of the nation's lands water and coastal resources and implement the programme.
4. Prepare periodic masterplan on the management of soil and coastline erosion and flood, and advise the Federal Government on the financial requirements for the implementation of such plans.
5. Carry out feasibility and scientific studies on soil erosion and related flood problems for the design of appropriate integrated remedial control measures.
6. Carry out public enlightenment campaigns on environmental degradation arising from poor land and water management practices.
7. Provide and promote training on environmental issues as they relate to flood, erosion, land degradation and water conservation.
8. Promote integrated ecosystem management with other agencies connected with agriculture, land use, soil and water conservation, rural development and coastal resources management including environmentally sound recreational use.
9. Strengthen national capacity through personnel development, provision of training facilities and research on combating climate-related ecological problems.
10. Strengthen capacity of the Environmental Management Support System (EMSS) for Remote Sensing data gathering, GIS facilities and development of disaster/environmental data bank.
11. Support agro-forestry and integrated Coastal Zone Management.
12. Encourage planted fallow in abandoned farmlands using soil enriching species.
13. Promote conservation farming and use of organic fertilizer and soil conditioners.
14. Establish viable contingency plans for tackling socio-economic and other problems resulting from coastal and other erosional disasters.

FUTURE PLANS FOR MANAGING MINING SITES AND RESTORING MINING WASTELANDS**Mission Statement**

Prevent and redress mining-related pollution and environmental degradation; reclaim and restore all identified degraded mining wastelands.

Justification

Mining and its associated activities are a source of considerable environmental damage to surface water, groundwater and land. Health and safety risks are also considerable for people working in mines or living close by. The resulting deterioration of the environment and human health, are evidenced in existing mining wastelands all over the country, especially in the Middle Belt States, including Plateau, Bauchi, Niger, as well as Borno, Yobe, Adamawa and Enugu States. The degradation of the natural environment has a negative effect on the long term growth potential of the country, even though immediate economic benefits are being derived by individual enterprises.

It is important, therefore, that all approvals to initiate mining should be carried out in an environmentally sound manner, so as to minimize the negative impacts, and reclaim all abandoned and closed mining sites.

Strategy

1. Inventorise all existing and closed mining sites.
2. Enforce compliance with all National Mining Laws and Regulations, especially the EIA Law, Safety Code and Accident Prevention Regulations.
3. Enforce mining Wasteland Reclamation measures for closed mining sites.
4. Provide financial incentives to assist and encourage the reclamation of abandoned mining sites.
5. Encourage public participation through dialogue with affected communities and other directly interested parties on the environmental aspects of different phases of mining activities.
6. Adopt environmentally sound mining technologies and practices in all phases of mining activities, especially appropriate technologies to mitigate environmental impacts, including those from small-scale mining operations.
7. Build capacity in environmental management in the mining industry.

AGENDA 21 CHAPTER 11: COMBATING DEFORESTATION

NATIONAL PRIORITY:

STATUS REPORT: Nigeria was once covered by an extensive vegetation varying from humid tropical forests in the south to savanna grassland in the north. A greater percentage of this luxurious vegetation has been removed in the course of various human activities. Presently, forest reserves cover about 10% of the national territory, mostly of the savanna woodland type. The southern rain forest, the source of the country's timber resources covers only 2% of the total land area in Nigeria. It is being depleted at an annual rate of 3.5% per year nationally. This implies deforestation on a large scale. The persistent decline in national forest has been a source of concern to the Federal Government. In order to arrest this situation, the Government has embarked on several programmes and projects on reforestation and afforestation.

Reforestation Afforestation

In order to address the problem of deforestation several on-going programmes and projects on reforestation and afforestation were initiated. Some of the projects which are line projects, are directly financed by the Federal Government while others are being jointly executed by the FGN and State Governments. African Development Bank (ADB) and the World Bank are the main funding agencies. The ADB assisted Forestry Project started in 1987 and is still on-going with a loan of US \$100 million. Before Forestry II Programme of 1987, a World Bank Forestry I Programme was earlier concluded in 1986.

The following have been achieved:

- (i) about 445 forest estates located in different ecological zones of the country covering a total of about 9,652,000 ha have been legally constituted;
- (ii) establishment and maintenance of over 7,194 ha of tree plantations;
- (iii) installation of 2 new sawmills with capacity to efficiently convert small diameter logs into large ones;
- (iv) various studies were concluded on rural sociology, agro-forestry and markets for Gmelina which is a short-fibre pulp species;
- (v) provision of raw materials for pulp and paper for the next 20 years.

Tropical Forestry Action Programme (TFAP)

This programme was initiated in 1985 by the FAO, the World Resources Institute (WRI) and the United Nations Development Programme (UNDP) as a framework for halting deforestation and the associated destructive impact in tropical countries. The TFAP is a veritable instrument in the successful implementation of Agenda 21.

National Forestry Action Plan

Nigeria launched the TFAP in 1990 and started implementing the National Forestry Action Plan (NFAP) with the assistance of FAO and a grant of US \$690,000 from UNDP. In order to ensure the greatest commitment at the highest and all levels of Government, the National Advisory Council to be assisted by a National Technical Committee was inaugurated in 1994. The project was concluded in 1995 and the final NFAP report has been submitted. The next stage is to use the report to shop for international funding from donors to implement the plans of action.

The Forestry Component of Environmental Management Project (EMP) has the following objectives:

- (i) updating the Land Use and Vegetation Maps (LW) of the country;
- (ii) establishing the mechanism for environmental monitoring;
- (iii) creating environmental awareness; and
- (iv) strengthening institutional and manpower capacities.

It is being financed by the Federal Government and the World Bank. The loan value is US \$3.5 million. Most of the objectives have been achieved.

National Forest Resources Study

As a result of the serious dearth of data and very weak resource planning base, the National Forest Resources project was embarked upon in 1996. The objectives of the study are:

- (i) data collection and analysis on the country's forest resources in order to overcome problems of rational planning arising from serious dearth of reliable and up-to-date data,
- (ii) preparation of management plans for sustainable development, management and utilization of forest resources,
- (iii) institutional and man-power capacities building.

This project started in 1995 with a grant of US\$4.0 million from the African Development Bank and contributions from the Federal and State Governments. This project is on course and it is a veritable instrument for the realization of the ideals and goals of Agenda 21.

Forestry Extension and Advisory Services

This was actively pursued through enlightenment programmes and activities to break down the general serious public apathy towards environmental conservation ethics and practices, thus ensuring wider receptivity and pursuit of sustainable development principles by all and sundry including the grass roots. Towards this end, the inclusion of environment and forestry conservation issues in secondary schools curricular was actively encouraged. In the pursuit of the principle of catching them young, Young Foresters Clubs were established and promoted through the provision of inputs, incentives and technical support. On a more grandiose scale, the measures received the required boost and inputs through FGN Annual Tree Planting Campaigns which are personally launched at the Federal Government level by the Head of State and Commander-in-Chief and by the Military Administrators and Local Government Chairmen at the State and Local Government levels to ensure grass root participation. National Tree Planting Campaign has also been admitted as regular line projects into the Federal Government and State Government Annual Capital Budgets.

In view of the fact that most of the State forestry and wildlife laws are obsolete, a National Forestry and Wildlife Law is to be formulated. The World Bank has already granted a loan (1996) in this regard and the FAO has also shown interest to be involved in the development. The project is in advanced preparatory stage and will be completed within 6 months of take off.

Manpower Development

As a result of the serious dearth of manpower in quantitative and qualitative terms, some training facilities, institutions and programmes have been put in place. Formal training could either be at the professional, technical or vocational level.

In Service Training

In order to upgrade the skills of serving officers and enhance their efficiency some other in-service short training courses are introduced. This programme, in particular, has enhanced the executive capacity of serving officers. In this category alone, the World Bank loan aided Forestry II project under capacity building provided training in 1996 to 219 staff internationally, and to 116 staff locally. In addition, about 35,000 individuals and farmers benefitted from in-house courses.

Professional Manpower Training

Forestry training at the professional level was initially available in one of the universities up till the late 1970s. The number of universities offering single honours and post graduate degree programmes including those offering forestry electives have continued to increase.

Technical Manpower Training

At the technical level, the number of Colleges of Forestry offering diplomas has increased from one to three. Other Colleges of Agriculture also offer electives in forestry and forestry related courses.

Vocational Training

The number of vocational training institutions has also continued to increase for subtechnical manpower development.

Furthermore, the Energy Programme of the Ministry of Science and Technology as envisaged through the installation of REs as stated under Chapter 9 is aimed at provision of cheaper and smaller units of energy to rural and remote areas of the country thereby, providing alternative energy sources to the use of forest resources, thus combating deforestation, desert encroachment and soil erosion. Energy supply to rural areas will lead to increased economic and industrial activities in the rural areas and hence rural development.

STATISTICAL DATA/INDICATORS

	1985	1990	Latest 199-
Forest Area (Km ²)			
Protected forest area			
Roundwood production (solid volume of roundwood without bark in mill m ³)			
Deforestation rate (Km ² /annum)			
Reforestation rate (Km ² /annum)			
Other data			

FUTURE PLANS ON FOREST PROTECTION

Mission statement

Increase forest reserve from the present 10% to 25% of the total land area by the Year 2010.

Justification

World-wide forest reserves are intended to secure and retain land under forest. It is a prerequisite for effective and prudent forest estate development. In many developed and developing countries, the forest estates cover at least 25% of the total land area, the minimum level required by international standard. The first indicative forest inventory project completed in Nigeria in 1977 put reserved forest at approximately 10% of the total land area. Between 1976 and 1990, deforestation proceeded at an average rate of 400,000 ha. per annum, in 1981-1985 at 3.48% while in 1986-1990 it was 3.57% including some forest reserves. The FAO concluded that if this rate was maintained, the remaining forest area in Nigeria would disappear by the year 2020. The value of lost forest cover has been estimated at US\$750 million annually at 1989 prices. The degradation and depletion of the forest reserve base has major effects on other sectors of the economy. The disappearance of forest cover leads to erosion, soil degradation and unfavourable hydrological changes. The World Bank in 1990 estimates the value of forest cover which protects and regulates soil, water, wildlife, biodiversity and carbon fixation (in terms of value of avoided costs) at over US\$5 billion annually (World Bank, 1990). There is need to address this enormous loss to ensure sustainable provision of goods and services including wood, protection of soil and water catchment areas, stabilization of hydrological regime, carbon sequestration and provision of habitat to numerous fauna and flora. In addressing the problem, at least the minimum international standards of 25% of the land area should be the target.

Strategy

1. Ban the export of log wood until the 25% reserve forest cover is achieved.
2. Provide a policy and institutional environment favourable for private investment in trees and forest resource management.
3. Increase community participation in forest management and utilization.
4. Encourage afforestation with species which provide other forest produce such as fruits, gum, etc. as an incentive to community participation in afforestation programmes.
5. Undertake scientific management of the 10 million ha. of existing forest, including the existing 37,800 ha. of plantations and rehabilitation of existing 590 woodlots.
6. Establish a total of 15 million hectares of plantation comprising plantings for various purposes such as shelterbelt, watershed conservation, rehabilitation of degraded sites, forest fruit trees, Gum Arabic etc.
7. Promote agro-forestry with multi-purpose tree species to diversify farm produce and improve the soil environment.
8. Encourage private sector industrial plantation establishment especially in already degraded forest estates.
9. Adopt protection forestry development strategies which includes shelterbelt establishment, afforestation of eroded site, stabilization of sand dunes etc.
10. Promote community woodlot which could include forest fruit trees, fuel wood plantation.
11. Improve efficiency of use of fuel wood.
12. Manufacture affordable bio-mass stoves.
13. Develop other alternative sources of energy such as solar energy.
14. Support research into conservation and improvement of soil, genetic resources, silviculture, utilization of forest products, agro-forestry, wildlife, afforestation of difficult sites.
15. Encourage inter-sectoral collaboration between forestry and related productive sectors.
16. Strengthen planning, monitoring and evaluation.
17. Support human resources development.

AGENDA 21 CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

NATIONAL PRIORITY:

STATUS REPORT:

The International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification Particularly in Africa was ratified in 1997.

In view of the serious ecological and socio-economic implications of desertification and drought, programmes and activities have been conceptualised in line with the provision of Agenda 21. These include Shelterbelt Establishment and Ecological Disaster Relief Programmes.

Reforestation: Shelterbelt Establishment

The programmes are either directly financed through the regular funding of line projects by government or implemented jointly by the FGN and State governments in collaboration with bilateral or multilateral aid organizations. In this regards, the FGN has enjoyed the support of the European Economic Community (EEC) and the World Bank. The EEC grant-aided project was implemented in Katsina State between 1987 - 1995 under the Lome II Agreement. The value of the grant was 90 million. The World Bank granted a loan of US \$71 million to both the Federal and State Governments to implement the Forestry II programme through this Department. The Forestry II Programme included the Environmental Forestry and Forest Management components.

In all, the following were achieved:

- (i) establishment of over 201 nursery units,
- (ii) establishment of over 3515 community nurseries,
- (iii) establishment of over 891 institutional and 936 private nurseries,
- (iv) production and distribution of over 75 million tree seedlings,
- (v) establishment of over 2,298 km of shelter belts and 600 ha of woodlot,
- (vi) over 320,000 farm families benefitted from the programme.

Ecological Disaster Relief Programme

The objective of this programme is to assist disaster prone areas in ameliorating various forms of ecological problems ranging from soil erosion, flooding, desertification, oil spillage and general pollution. This programme is being financed by the National Ecological Fund instituted in 1989. The Fund is administered by the National Committee on Ecological Problems under the Presidency.

FEPA-University of Maiduguri Linkage Programme

The objective of this programme is to generate credible data and train manpower for planning purposes in environmental management of natural resources and, in particular, to develop practical measures for combating desertification and mitigating the effects of drought in the semi arid and arid areas of the country. Specifically, the Linkage Centre undertakes research and training in:

- * vegetation and land use management
- * arid land human ecology
- * management of range land
- * arid land soil/water management.

FUTURE PLANS TO COMBAT DESERTIFICATION AND MITIGATING EFFECTS OF DROUGHT

Mission Statement

Arrest desert-like conditions, rehabilitate affected areas and institutionalize drought amelioration measures.

Justification

Drought and desertification are the most important twin environmental problems affecting the 15 northernmost states of the country. The Government, and at some instances in collaboration with donor countries, international organizations and institutions, has done a lot to combat desertification, and mitigate the effects of drought since the beginning of the 1970s. Efforts have been made through more efficient utilization and alternative sources of fuel wood, promulgation of State Edicts, afforestation and reforestation programmes. Despite all these efforts, desertification has continued its down-south movement which currently renders the areas north of latitude 15° either desertified or prone to desertification. This process coupled with the effects of drought have continued to cripple the socio-economic lives of the people living in the affected areas. The negative impacts on the people call for urgent actions to check the desert encroachment currently estimated at about 1 km annually, and institutionalize drought ameliorating measures which should be periodically reviewed.

Strategy

1. implement the UN Convention to Combat Desertification (CCD);
2. strengthen political and financial commitment of government towards drought and desertification control programmes in the country's national development plans;
3. intensify public awareness and education on causes and dangers associated with drought and desertification, as well as the contents of the CCD;
4. develop National Action Programmes (NAPs) in accordance with the spirit and aspiration of the CCD;
5. strengthen national and state institutions involved in drought and desertification control programmes;
6. promote sustainable agricultural practices and management of water resources;
7. encourage the development and adoption of efficient wood stoves and alternative sources of fuel wood;
8. establish drought early warning systems;
9. involve the local people in the designing, implementation and management of natural resources conservation programmes inimical to combating desertification and ameliorating the effects of drought;
10. encourage viable afforestation and reforestation programmes using tested drought resistant and/or economic tree species;
11. encourage international cooperation and partnership arrangements in the areas of training, research, development and transfer of affordable and acceptable environmentally sound technology and provision of new and additional technical and financial resources;
12. carry out surveys of degraded lands, and implement preventive measures for lands that are not yet degraded or which are slightly degraded;
13. adopt an integrated approach addressing physical, biological and socioeconomic aspects of desertification and drought;
14. cooperate with relevant Inter-and Non-governmental Organizations in combating desertification and mitigating the effects of drought;
15. strengthen the nation's food security system;
16. establish, review and enforce cattle routes and grazing reserves.

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199
Land affected by desertification (Km ²)			
Other data			

AGENDA 21 CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

NATIONAL PRIORITY:

STATUS REPORT: No information available.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.
2. **Capacity-Building/Technology Issues:** No information available.
3. **Major Groups:** No information available.
4. **Finance:** No information available.
5. **Regional/International Cooperation:** No information available.

AGENDA 21 CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

NATIONAL PRIORITY:

STATUS REPORT: Currently, several activities are being implemented by the Ministry of Water Resources and Rural Development under the programme of water supply, sustainable food production and rural development. These include:

Nationwide River Basins Irrigation Planning Study

The study is to enable the improvement of the efficiency and effectiveness of investments in irrigation development in the country. The required data have been collected and are now being subjected to analysis. The study is expected to be completed in 1998.

Surface and Groundwater Monitoring Under the National Fatima Development Programme

The main objective of the programme is to monitor and study the effect of groundwater exploitation in flood plains in the semi-arid areas of the country for irrigation in order to design effective and sustainable exploitation regimes for the various aquifers encountered. Work started in 5 pilot states in 1995 and is scheduled to be completed by September, 1997. For 1997/98, the Ministry, with the assistance of the International Atomic Energy Agency (IAEA), is to use isotope hydrology to study the recharge situation in a pilot Fatima area in Wam, Sokoto State. The study will also seek to ascertain the pollution potentials of the saturated groundwater zone due to the irrigation activities in the project area. The study, which will ultimately assist in the design of the groundwater exploitation plan for the project area is expected to be completed by the end of 1998.

Survey and Inventory of Irrigation Projects in Nigeria

he aim of the project is to have up to date information on irrigation development in Nigeria. It involves the collection, collation, compilation and classification of irrigation projects in the country. The first study was completed in 1985, updated in 1992 and the 2nd update is billed for execution in 1997.

Applied Research into Identified Problems in Existing Irrigation Projects

This research programme came into being to address the peculiar problems encountered, such as waterlogging, salinity, aquatic weeds etc. thrown up in the operations of the irrigation projects. The programme will start this year with 2 pilot studies on the Kano River Irrigation Project and the Lower-Anambra Irrigation Project. As funds become available, other projects and their problems will be tackled.

Formulation of Irrigation Policy for Nigeria

Formal irrigation started in Nigeria 21 years ago. However, a national policy on irrigation has not yet been produced. This situation is being corrected by the preparation of an irrigation policy for the country. Data has been collected and are presently being analysed with the hope of completing the project this year. However funds have been a serious constraints to the speedy completion of the policy document.

In its effort to create the enabling environment for food self-sufficiency, the Government, through the Ministry of Agriculture and Natural Resources has embarked on a number of programmes geared towards promotion of sustainable agriculture and rural development. The programmes and their associated activities are:

Agricultural Land Resource Programme Objective

The objective of this programme is to ensure the choice of suitable lands for production of specific crops through soil survey and land evaluation; monitor and improve their quality through soil fertility management and ensure the conservation of the fertility of agricultural lands through rehabilitation of the degraded lands.

A soil survey of the country at a reconnaissance survey of 1.650,000 has been completed. However, this gives information only of a generalized nature. A more detailed survey which would yield information necessary for intensive agriculture has been planned since 1994 and could not take off due to financial and personnel constraint.

Monitoring of the fertility status of the country's soil as well as the establishment of practices for special problem areas have equally not progressed due to inadequate fund release. Similarly, effective soil conservation practices and rehabilitation of degraded lands suffered for lack of adequate capital and necessary field equipments.

Although the execution of the project has been constrained for some time, the Environmental Management World Bank Assisted Project (EMP) commenced in 1995 helped in establishing the machinery for monitoring land degradation in the country. Through this project, resource personnel are receiving training while equipment, computers, GIS etc. have been received for enhanced data acquisition and processing. Project vehicles have also been received to increase efficiency of field operation.

National Seed Service (NSS) Programme

The objective of this programme is to produce high quality seeds for Nigerian farmers within a commercial environment of sound certification and quality control and to sell high quality seeds and seedlings of selected arable tree crops, namely oil palm, rubber, cotton, groundnut, soybeans, gum arabic etc.

- * Over 2,460 kg of foundation seeds has been produced by the project to the Research Institutes and out growers respectively.
- * The Seed Certification and Quality Control Programme of NSS tested a total of 2,425 seed samples in 1996.
- * Rehabilitation of seed testing laboratories and seed processing plants at NSS Jos, Ibadan, Zaria and Umudike has been completed.
- * Under the Community Seed Development Programme, demonstration plots were set up to create awareness of modern varieties of maize, cowpea, sorghum, rice and soyabean and to offer easy access good seeds produced by the contract grower.

There are, however, constraints of low uptake of Foundation Seed by ADP and private seed companies, inadequate mobility for officers to carry out seed industry development activities in the states and ultimately release of counterpart funds.

Establishment of the Federal Agricultural Coordinating Unit (FACU)

Further effort by the Nigerian Government to promote sustainable agricultural and rural development has led to the establishment of the Federal Agricultural Coordinating Unit (FACU). This unit is primarily responsible for the provision of planning and implementation support to the activities of the Agricultural Development Projects (ADP) in the country. The following activities were undertaken in 1996:

- * The mid-term review of the National Agricultural Technology Support Project (NATSP) for five States implementation agencies for Kano, Jigawa, Bauchi, Sokoto and Kebbi.
- * Implementation support to ADP through joint bank/FACU supervising missions to various ADP covering all programme: supervision mission on the activities of the National Accelerated Industrial Crops Production Programme (NATCPP) in 11 ADP States; participation in the National Artisanal Fisheries Statistical data base, survey covering FCT, Kwara, Kogi, Benue, Niger, Taraba and Plateau; assistance in the strengthening of agro-forestry and land management activities of ADP; assistance in the rehabilitation of existing of ADP; assistance in the rehabilitation of existing Animal Traction Centres in the 5 NATSP States; supported the video documentation programmes in agriculture to widen understanding in this area; organized workshop and - training on fisheries promotion programme, maize production and rural institution development,
- * Review of External Assisted Projects including pipeline programme and on going loans.
- * The unit continued with production of its regular publications while the library received many publications from many sources. The major drawback are due to poor funding and support by both, the Federal and State Governments; inadequate staff in key areas and shortage of vehicles and major office equipment.

Agricultural Finance Programmes

This is another programme whose objective is to provide loans and credits to small scale farmers. This is done through some agricultural oriented financial institutions such as Nigerian Agricultural Co-operative Bank (NACB), Agricultural Credit Guarantee Scheme (ACGS) and Farmers Credit Scheme (FCS). Farmers have been supported financially through this programme for the purpose of increasing crop production.

The National Agricultural Research Project (NARP)

The National Agricultural Research Project was set up to strengthen the country's agricultural research system and ensure availability of food through adequate domestic production.

Within the network of Agricultural Research Institutions, five of them handle food crops; three for livestock; one of them (NSPRI) researches on storage of agricultural and food products while three handle mechanization research including designing, fabrication, and servicing of food processing machines.

The impact of the NARP in boosting food production has not been sufficiently felt perhaps due to lack of adequate support and ineffective programme co-ordination. With recent reorganization and assured funding, NARP is expected to increase food production during the next decade.

The Strategic Reserve Scheme

The objective of the Strategic Grains Reserve Scheme at its second inception is to undertake the storage of excess grains in the market during the harvest and to release some when prices are high in the market thus stabilising the price and making grains available all year round.

Of the thirty-three (33) medium and large scale silos commissioned for construction, seven (7) have been completed. At present, there is gross under-utilization of these silos due to lack of available grains for storage. Only 3 of the silos contain grains. Measures have been taken to restore the storage efficiency of the silos in the 1997 season. Steps are also being taken to ensure high production of grains and minimize illegal export and smuggling across the border. Direct purchase for farmers is expected to bring about increase in the quantity of grains reaching the silos.

Establishment of the National Agricultural Land Development Authority (NALDA)

The Government's main objective of establishing NALDA is to transform rural peasantry by mobilizing human resources and other support services to open up new lands for increased food production. The Authority has embarked on some activities such as bush clearing, land preparation, farm infrastructural facilities soil conservation and environmental issues, soil survey, evaluation, soil testing and capacity to provide base line data for agricultural related activities and advisory services to agricultural land users.

The NALDA 1997 work-plan envisaged opening up more enclave farming communities during the operating season and will focus on land development in cooperation with Agricultural Land Resource, Forestry, Department of Agriculture and Agricultural Co-operative.

STATISTICAL DATA/INDICATORS				
	1985	1990	Latest 199_	
Agricultural land (Km ²)				
Agricultural land as % of total land area				
Agricultural land per capita				
	1989/90	1992/93	Latest 199_	
Consumption of fertilizers per Km ² of agricultural land as of 1990				
Other data				

AGENDA 21 CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

NATIONAL PRIORITY:**STATUS REPORT:**

The Convention on Biological Diversity was ratified in 1994. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was ratified in 1974.

The policy goal on the conservation of biodiversity programme is to ensure sustainable use of forest resources and preserve the many benefits accruing from soil, water and wildlife conservation for economic development. Among the priority programmes currently on-going are the extension of National Parks and Reserves and the compilation of the flora and fauna of Nigeria.

Country Study on Biological Diversity

A Country Study on Biological Diversity in Nigeria was carried out from 1991 - 1992. It produced a report titled: Biological Diversity in Nigeria. The study addressed a full range of biological diversity conservation problems. Most of the recommendations made are currently being implemented by the Government.

The Federal Environmental Protection Agency also established a link with the University of Agriculture, Abeokuta under the FEPA-University Linkage Programme to undertake further training and research activities on biodiversity conservation.

Nigerian Biodiversity Strategy and Action Plan (NBSAP)

This programme reviews the status of biodiversity conservation in Nigeria in an attempt to fill the gaps identified in the country study programme and develop strategies and action plans to bridge the gaps in the conservation effort. The first draft report to be discussed by stakeholders in the identified four eco-regions has been produced and circulated among stakeholders for their inputs. The inputs from the planned stakeholders workshop would be incorporated into the Second Draft Report to be discussed at a National Workshop pending the presentation of the final report to the Government for approval.

Protected Area Programme

This programme is to identify areas and sites of conservation interest and to classify the areas identified using IOCW criteria. Only 4 states (Delta, Edo, Kogi and Kwara) have been visited so far.

Botanical survey (Flora of Nigeria)

The outcome of this survey is the production of the checklist of Nigeria's flora. A survey of biodiversity hotspots to identify new species has also been carried out.

Zoological survey (Fauna of Nigeria)

The objective of this survey is to produce a list of Nigeria's fauna. By now only the aquatic fauna has been documented.

Establishment of Gene Bank

The Government has established a gene-bank for the collection and preservation of Nigeria's plant species with the following objectives:

- establishment of a database on national bio-resources;
- development and adoption of a comprehensive biodiversity and conservation strategy;
- the training of personnel as the essential catalysts for better understanding of environmental issues and commitment to sustainable use of resources.

Resulting from the Government's effort in biodiversity conservation, the following achievements have been made:

- (i) there are in place 32 game reserves/sanctuaries and 6 National Parks covering a total parts of about 4,293,800 ha scattered in different areas of the country;
- (ii) there are 12 strict Nature Reserves;
- (iii) there are 13 proposed Game Reserves/National Parks covering about 372,000 ha located across the country.

FUTURE PLANS ON BIODIVERSITY CONSERVATION

Mission Statement

By the Year 2010, Nigeria's rich biological endowment together with the diverse ecosystems will be secured, its conservation and management assured through appreciation and sustainable utilization. Nigeria will continue to be active at the international arena while at the local level infra-structural, human and institutional capabilities are developed to ensure equitable sharing of its benefits over time.

Justification

The continual depletion of plant and animal species and the degradation of ecosystem due mostly to economic motives, have become an important issue of growing global concern. Despite the unbridled rate of increase in the exploitation of biodiversity globally, the rate of replacement has not been commensurate with use. Thus, the number of threatened and endangered species is continuously increasing. Biodiversity being the economic and socio-cultural base of human systems, providing unquantifiable benefits to man and the environment including shelter, food, clothing, medicine, recreation and resources for the industry, need to be conserved and managed sustainable for the present and future generations.

Strategy

1. Inventorise, identify and rehabilitate all threatened and endangered species of fauna and flora.
2. Increase the network of protected areas to include all ecosystem types in consonance with internationally accepted categorization.
3. Promote and enhance measures for both in-situ, and ex-situ conservation through identification, inventories, evaluation, monitoring, research, education, public awareness and training.
4. Increase the nation's biodiversity management capability (human, infrastructural, institutional and technological).
5. Develop economically and culturally sound strategies to combat biodiversity loss.
6. Protect and promote policy guidance for bioprospecting and indigenous knowledge (intellectual property right).
7. Rehabilitate degraded ecosystems.

STATISTICAL DATA/INDICATORS

	1992	Latest 199_
Protected area as % of total land area		
	1990	Latest 199_
Number of threatened species		
Other data		

AGENDA 21 CHAPTER 16: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY

NATIONAL PRIORITY:

STATUS REPORT: In recent times, the Government has designed a biotechnology programme for application in industry, agriculture and medicine. Among the objectives of the programme are capacity building and human resources development and promotion of biotechnology infrastructure.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information available.

2. **Capacity-Building/Technology Issues:** For the purpose of capacity building, workshops and training seminars have been held. These include:
 - National Workshop on the National Programme on Biotechnology;
 - Training workshop for scientists on fermentation technology and enzyme production;
 - National Training Workshop on Cell and Plant Tissue Culture for 20 scientists;
 - International Training Course on Biotechnology, Cell and Tissue Culture Techniques held at International Institute of Tropical Agriculture (IITA), Ibadan.

3. **Major Groups:** No information available.

4. **Finance:** No information available.

5. **Regional/International Cooperation:** See information provided under CAPACITY-BUILDING.

AGENDA 21 CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

NATIONAL PRIORITY:

STATUS REPORT:

The UN Convention on the Law of the Sea was ratified in 1986.

Gulf of Guinea Large Marine Ecosystem

The project was formulated on the realisation of the need to control water pollution and conserve biodiversity in the Gulf of Guinea. The project is regional in outlook for it cuts across countries like Cameroon, Cote d'Ivoire, Ghana, Benin, Togo, Guinea and Nigeria. Participating agencies in Nigeria include the federal Environmental Protection Agency (FEPA) and the Nigerian Institute for Oceanography and Marine Research (NIOMR). The project is being funded by Global Environmental Facility (GEF) with UNIDO as the executing agency.

Several activities have been carried out since the commencement of the project. These include:

- (a) Reconnaissance survey of coastal areas in Lagos and Port Harcourt by a team comprising of GEF, UNIDO, FEPA, NIOMR and the River State Government representatives;
- (b) Training of officers of the participating agencies through workshops and seminars as provided for in the project;
- (c) Creating awareness among the communities and non-governmental organisations through environmental enlightenment campaigns;
- (d) Studies on pollution and natural resources conservation by various universities in the country in the area of:
 - i. Plankton survey
 - ii. Mangrove study
 - iii. Coastal pollution
 - iv. Industrial pollution
 - v. Standards and legislation
 - vi. Socio-economics

Increased participation by stakeholders has boosted the success of its implementation in Nigeria especially since 1996.

Marine Observatories

The Department of Meteorological Services operates two marine stations at the Institute of Oceanography, Victoria Island in Lagos and at Eket in Akwa Ibom State. Regular measurements of sea surface temperature (SST), wave height, sea level rise and other conventional meteorological elements are being undertaken. Data obtained from such systematic observations are expected to complement the existing oceanographic database of the country.

Niger Delta Action Plan

Niger Delta is one of the largest deltas in the world and the third largest in Africa. This large expanse of wetlands covering about 20,000 square kilometres and located in southeastern Nigeria houses most valuable renewable and non-renewable natural resources. Unsustainable exploitation and environmental degradation are increasingly impairing the natural resource base on which the rural communities depend. In recognition of the fact that sustainable development will require a balance between accelerated economic growth and environmental protection to ensure that the people of the Niger Delta benefit as much as possible from exploitation of the resources in the area, Government and other stakeholders developed a long-term Integrated Environmental Action Plan, "the Niger Delta Action Plan", that will address priority environmental issues in the area.

Studies have been commissioned to assess the extent of land and renewable resource degradation and environmental pollution and to proffer adequate mitigating measures. Relevant workshops/seminars, drawing participants from the local communities, have been held to discuss views expressed by the scientists in their various submissions on various aspects of the Niger Delta ecosystem.

The Federal Government, through the Ministry of Transport, has initiated the ratification of the Oil Spill Convention. This is expected to provide legal framework for Nigeria as a maritime nation to effectively police its waters against pollution and other environmentally unfriendly activities in the coastal areas. Apart from this, the Ministry has developed pollution prevention officer's course and curriculum for the training of Maritime Surveyors of Nautical Machinery and Hull Specialisation to enhance capacity for oil spill management.

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
Catches of marine species (metric tons)				
Population in coastal areas				
Population served by waste water treatment (% of country's total population)				
Discharges of oil into coastal waters (metric tons)				
Releases of phosphate into coastal waters (metric tons)				
Releases of nitrate into coastal waters (metric tons)				
Other data				

AGENDA 21 CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

NATIONAL PRIORITY:

STATUS REPORT: The country is endowed with abundant surface and groundwater resources whose availability vary with respect to rainfall, location and geological formations. The highest annual precipitation of about 3,000mm occurs in the Niger Delta and Mangrove Swamp belt of the southeast where rainfall lasts for almost 10 months of the year. Rainfall decreases in amount progressively towards the north. The variation in rainfall also determines the drainage regime in the country, the most important drainage systems being:

- * The Niger River Basin drainage system with its major tributaries of Benue, Sokoto-Rima, Kaduna, Gongola, Katsina-Ala, Dongo, Taraba, Hawal and Anambra Rivers;
- * The Lake Chad inland drainage system comprising Kano, Hadejia, Jama'are, Misau, Koma dongou-Yobe, Yedseram and Ebeji Rivers;
- * The Atlantic drainage system to the east of the Niger made up of the Cross, Imo, Qua Iboe and Kwa Rivers; and
- * The Atlantic drainage system to the west of the Niger consisting of the Ogun, Osun, Owena and Benin Rivers.

While the various human activities draw on the surface resources, the groundwater resource potential in the country has not been fully tapped. This is partly due to the fact that it is comparatively more expensive to harness groundwater resource than surface water resources. Also it is technologically more demanding to exploit the crystalline rock aquifers for water.

The Government of Nigeria, through the Ministry of Water Resources and Rural Development, is undertaking a number of programmes designed to protect the quality and supply of freshwater resources in the country. On-going activities in these programme areas are briefly summarised below:

Integrated Water Resources Development and Management

In this programme area, the Ministry of Water Resources and Rural Development has carried out two activities. These are:

- (i) Preparation of the Nation's Water Resources Master Plan for the period 1995- 2020
This was done with technical assistance of the Japanese Government through the Japanese international Cooperation Agency (JICA). Preparation of the Master Plan started in 1992 and was concluded in 1995.
- (ii) Water Resources Decree 101 of 1993
This Decree gives the legal framework for the development of the water resources of the country. It places ultimate responsibility for the proper development of the nation's water resources on the Ministry of Water Resources and Rural Development.

Water Resources Assessment

In this programme area, the following activities have been carried out:

- (i) Inventory of Water Resources Facilities
This was done as the initial take off activity for the preparation of the National Water Resources Masterplan in 1992/93.
- (ii) Hydrogeological Mapping of the Country
This programme seeks to produce the hydrogeological maps of the country in 100 sheets. Between 1992 and 1995, 11 of the 100 sheets were mapped. It is intended to complete the remaining 89 sheets in the next 3 years. The Petroleum Trust Fund (PTF) is being approached for funding to complete the project.

(iii) Hydrological Network Programme

Based on the WMO standard for the establishment of primary hydrological network stations, Nigeria is to have 482 stations. Of these, 163 have been installed with 53 of them presently functional. The constraints towards early completion of the installation of the outstanding stations and the maintenance of the existing stations have been lack of funds. To ameliorate this, the National Council on Water Resources and Rural Development in October 1996, decided that each state of the Federation should, for the next three years, spend 1% of its annual budgetary allocation for water resources on data gathering and processing, while the Federal Government should similarly spend 3% of its annual budgetary allocation to the water resources sector in the first three years. In the subsequent years both the state and the Federal governments should commit 1% of their respective annual budgets on water resource to data collection and processing.

(iv) The JICA assisted Hydrogeological Mapping of old Sokoto State

This project was conceived to investigate the groundwater potentials of the old Sokoto State, which comprises the present Sokoto, Kebbi and Zamfara States, with a view of providing water supply to villages in this semi-arid area. The project started in 1988 and the hydrogeological aspect was completed in 1993, with the production of the hydrogeological map of the old Sokoto State and the provision of water for 13 villages. Eight villages are outstanding. JICA funding was stopped in 1993 because of the political situation of the country.

(v) Borehole Inventory Survey

This project was carried out to document all boreholes in the country. It involved a record of their design, construction methods, operations and maintenance. The work, handled by a consultant, started in 1991 and was concluded in 1996.

Protection of Water Resources, Water Quality and Aquatic Ecosystem

In this programme area the Ministry has carried out five activities. These are:

(i) Nigeria Register of Dams

Faced with the dangers of dam breaks as was epitomized by the failure of the Bagauda Dam in 1988 and the attendant destruction of lives, property and downstream ecology, the Government decided to complete the inventory and register of dams. The objective of the project was to verify the location and distribution and the vital statistics of dams. The project was successfully completed in 1995 with the production of the maiden edition of the Nigeria Register of Dams.

(ii) Programme for Rehabilitation of Dams

During the preparation of the Register of Dams and inspections, it became clear that a number of dams were under distress and rehabilitation works were required to restore them to safety. The Ministry has since 1993 requested for funds to rehabilitate the dams under its River Basin and Rural Development Authorities, while also persuading other dam owners to keep funds aside for the maintenance of their dams, and the rehabilitation of those under distress. Rehabilitation works on the most critical dams will commence this year.

(iii) Rehabilitation of Soil Erosion Sites

The heavy monsoon rainfall and the fragile nature of soils in a number of places in the country, particularly in the eastern parts of the country, causes hundreds of gully erosion sites to develop annually. The Ministry has a programme for arresting the massive ecological problems of the in the rural areas and restoring the land as much as possible. This is an on-going programme which draws its funds from the 2 percent Ecological Fund.

(iv) Flood Control Programme

The low-lying, flood-prone areas near rivers and streams and in inland areas also receive attention from the Ministry. The twin problems of soil erosion and flood control are addressed through the Department of Soil Erosion and Flood Control created in 1991 to oversee the mitigation of these problems and the restoration of devastated lands. The Federal Ministry of Water Resources and Rural Development handles inland erosion and flooding, while the Federal Ministry of Works and Housing handles marine flood control and erosion.

(v) Water Quality Laboratories Project

In order to ensure that water supplied to the Nigerian populace is wholesome, the Ministry in 1986 established the Regional Water Quality Laboratories and some Reference Laboratories, serve as Centres of Excellence and training of water quality personnel. In 1991 ADB funding was sought for equipment purchase and expert training for the Regional Laboratories and two Reference Laboratories located at Dadin Kowa, Minna, Akure, Enugu, Lagos and Kaduna, respectively. The ADB loan was approved and signed in July 1994, but could not be drawn down because of a Presidential directive to source the funds internally. Budgetary provisions have been very meager and have only enabled the Ministry to construct three of the buildings to completion, while a 4th one is 30% completed. The construction of the outstanding two have not yet been commenced. The laboratory equipment are yet to be procured due to funds constraints. The PTF has been approached for assistance.

Drinking Water Supply and Sanitation

In this programme area, the Ministry has made significant impact through five local and two international activities. These activities are:

(i) Production of the National Rural Water Supply and Sanitation Sector Strategy and Action Plan

The Rural Water Supply and Sanitation sub-sector was totally uncoordinated. Various methods and equipment were used with little or no thought given to the sustainability of the systems nor the ability of the benefitting communities to operate and maintain them. This document prescribed standards for the methods and equipment to be used. The document was finalized in 1992 and formed the basis for the next three programmes/projects.

(ii) Nation-wide Rural Water Supply Programme

In order to assist the States to attain at least 50% national coverage for rural water supply by the year 2000, the Ministry provided funds to States that have set up their Rural Water Supply and Sanitation Agencies, as the sole agencies for coordinating rural water and sanitation projects. The Agencies are expected to have functional drilling outfits to rehabilitate 20 broken down handpump schemes and construct 4 mini water supply schemes. The programme started in 1995 and will go on to the year 2000. So far, 16 states have benefitted. Others are to come on stream as soon as they meet the criteria for participation.

(iii) Handpump Development Programme

Due to the maintenance problems presented by the proliferation of assorted hand pumps in the country, the Ministry in 1987 commissioned a handpump study programme in Missau LGA then of Bauchi State. The study recommended the standardization and use within the country of two handpump makes, the India Mark III and the Afridev as Village Level Operated and Maintained (VLOM) pumps. Both have been modified to improve their efficiency and durability and are now produced locally, through a deliberate programme of technical assistance to local manufacturers.

- (iv) The FGN-UNICEF Joint Rural Water Supply and Sanitation Programme
This programme uses the provisions of the National Rural Water Supply and Sanitation Sector Strategy and Action Plan to fashion out rapid intervention in water supply and sanitation in the rural areas with the States, Local Governments and the Communities contributing financially to the capital cost of the systems provided. The Communities are involved in the planning and execution of their projects and are adequately trained to sustain the systems. They also collect revenue to be able to fund the operation and maintain the systems. The programme came into effect in 1995 and has already provided 3,583 boreholes and 25,349 sanplats latrines to various communities in 18 states within the last 2 years.
- (v) The National Water Supply Policy
This policy was completed and approved at the National Council on Water Resources and Rural Development meeting held in November 1995 in Kaduna. It provides the guidelines for water supply development up to the year 2015.
- (vi) International Ministerial Conference on Drinking Water and Environmental Sanitation
Nigeria participated actively in both the Steering Committee and the Ministerial Conference on Drinking water held in Noordwijk, Holland in March 1994 under the auspices of the Royal Netherlands Government. The Conference was a direct follow-up on Agenda 21. The Ministry of Water Resources was also active in the subsequent meeting on "Forward Looking Assessment on the Implementation of the Action Programme on Drinking Water and Sanitation" meeting held in the Hague under the auspices of the Royal Netherlands Government.
- (vii) UN Water Supply and Sanitation Collaborative Council
The Ministry took active part in the work of this Council and actively participated in the Working Groups that produced the Country Level Collaboration, and the Information, Education and Communication documents that were presented and accepted at the Council's 2nd biennial meeting held in Rabbat, Morocco in 1993. Presently a staff member of the Ministry is the Chairperson of the Working Group on the Water Supply and Sanitation Development in Africa set up to focus on the water supply and sanitation problems in Africa and to set the stage for donors sensitization on the needs of Africa.

Water and Sustainable Urban Development

In this programme area, the Ministry has been involved in basically two activities. These are:

- (i) National Water Rehabilitation Project
This project came about from the realization that most of the operating water systems hardly produce up to 40 percent of their installed capacity. With the assistance of the World Bank, the rehabilitation of some selected systems in the then 21 states of the Federation and Abuja were scheduled at total project cost of US \$256.00 million. The project implementation started in 1991 and is scheduled to be completed by next year, at the end of which over 250 systems would have been rehabilitated.
- (ii) Peri-Urban Water Supply and Sanitation Programme
This programme is to provide drinking water and sanitation facilities to the marginalised inhabitants of urban areas. The project which is to be assisted by UNICEF was to carry out pilot schemes in Calabar, Maraba (near FCT) and Kaduna. The preliminary study at Maraba has been carried out but funding has been a constraint as the UNICEF appears to have had problems with classification of the project vis-a-vis their global mandate. It is still a very important programme that would help alleviate the suffering of the urban poor and also help in poverty alleviation and improvement of health in the poor urban settlements.

Impacts of Climate Change on Water Resources

Approval is being awaited for the study of the Impact of Climate Change on Water Resources with Particular Reference to Flood Susceptible and Drought Prone Areas submitted to the UNESCO Participation.

Global Environmental Monitoring Systems(GEMS)/Water Nigeria

GEMS/Water Nigeria is a component of the Global Environmental Monitoring Systems whose overall goal is to monitor the quality of freshwater supply throughout the country. The programme is sponsored by the United Nations Environment Programme (UNEP) and World Health Organisation(WHO). It involves monitoring of several water parameters and provide information on the suitability of water for human consumption, agricultural, commercial and industrial uses. Some of the activities under the programme focuses on:

- i. strengthening of national water quality monitoring networks in Nigeria;
- ii. improving analytical capabilities and data quality assurance,
- iii. addressing critical freshwater quality issues in order to propose policy options and control measures
- iv. assisting participating laboratories through the provision of technical advice, analytical reference samples and training opportunities.

The Federal Environmental Protection Agency (FEPA) is coordinating the programme within the country. Participating agencies include the National Institute for Freshwater Fisheries Research (NIFFR), New Bussa and the National Water Resources Institute (NWRI), Kaduna.

A network of stations on rivers, lakes and reservoirs has been established and instrumented for the purpose of collecting samples for analyses.

FUTURE PLANS FOR PROTECTING AND MANAGING WATER RESOURCES

Mission Statement

Ensure optimal development of water resources on an environmentally sound and sustainable basis for food production, water supply, hydro-power generation, transportation and recreational uses.

Justification

The earth is a water planet and it is the abundance of this unique liquid that has made life possible on earth. Water has numerous physical, chemical and biological uses, and it could be used most efficiently when it is in its purest form. This purity, however, is threatened by human activities. In order to avert this trend, several countries instituted minimum water quality standards. Nigeria has not been left behind in this process. In Nigeria, there exists water quality standards for several uses, but despite this, the pollution and degradation of water quality continues unabated due to discharge of untreated effluent from industries, sewers, non protection of water sheds, hydrocarbon contamination of ground water, saline intrusion of ground water, irresponsible mining activities to name a few. This is aggravated by the reckless and unregulated abstraction of ground water. These trends have to be arrested to ensure sufficient quality water.

Strategy

1. Establish the Inter-Ministerial Committee on Water Shed and Water Quality Management.
2. Provide potable water in all urban and rural areas.
3. Eliminate discharge of untreated effluent.
4. Ensure the implementation of the Water Resources Decree 101 of 1993.
5. Develop water quality inventories and maps.
6. Restore polluted water, both surface and ground water especially in the large cities and the Delta.
7. Promote research in ground water recharge and saline water intrusion.
8. Develop sustainable irrigation practices for food production.
9. Ensure the establishment of fisheries projects in relevant water resources management programmes.

FUTURE PLANS FOR FLOOD MANAGEMENT

Mission Statement

Achieve effective management of urban, river and coastal flooding.

Justification

Flooding in one form or other affects at least 20% of the nation's population. It cuts across the society from the urban residents to the rural dwellers. Flooding is a threat to physical infrastructures, including residential accommodation, commercial, and industrial properties, roads, rail lines, bridges, port installations etc. It also destroys farmlands, including standing crops. Losses due to flooding run into billions of Naira per year.

Strategy

1. Enforce compliance with town planning/urban laws/edicts.
2. Build embankments and levies along rivers and coastlines prone to flood.
3. Establish rainstorm early warning system.
4. Establish and monitor weather stations, river and tidal gauges.
5. Ensure appropriate management and maintenance of dams.
6. Ensure proper maintenance of existing drainage channels.
7. Enforce environmental sanitation laws in towns and cities.

FUTURE PLANS FOR CONTROL OF THE INFESTATION OF WATER HYACINTH AND OTHER INVASIVE WEEDS

Mission statement

Eliminate the water hyacinth and other invasive plant in all water systems.

Justification

Water hyacinth and other invasive weeds menace currently hampers normal economic activities in the riverine areas where the spread of the weeds has been established. They also impend free river communication in water ways and above all, the spread of the weed obstructs fishing activities and degrades water quality.

Strategy

1. Inventorise the spread of water hyacinth and other invasive weeds in all the river systems.
2. Develop an infestation index map to determine control options.
3. Adopt an appropriate integrated control option to ensure that the weeds are no longer a menace.
4. Encourage sub-regional cooperation.

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-
Fresh water availability (total domestic/external in million m ³)			
Annual withdrawal of freshwater as % of available water			
Other data			

AGENDA 21 CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS

NATIONAL PRIORITY:

STATUS REPORT: Following the provisions of the Waste Management Regulations S.I. 15 of 1991, the Hazardous Chemicals and Toxic Wastes Dump Waste Programme was put in place in 1992 in addition to the total ban of importation, transit, transportation, deposit and storage of harmful wastes that has existed since 1988.

Under this programme, Federal Environmental Protection Agency (FEPA), officials operating at the sea ports in the country can take samples of any suspicious consignment camouflaged as industrial materials for analysis in the Reference Laboratory of the Agency. Besides, FEPA has embarked on chemical tracking by monitoring warehouses and outlets for the safe handling, storage and disposal of imported chemicals. The effort has succeeded in intercepting a host of banned and expired chemicals as well as toxic wastes camouflaged as raw materials and products.

In line with the some of the provisions of the Basel Convention, the Federal Government approved a FEPA-University of Ibadan based Centre of Excellence to carry out training and research in the areas of:

- industrial, domestic and hazardous wastes management;
- development or adaption of cleaner production technology for Nigeria;
- reduction of gaseous emissions; and
- incorporation of "waste to wealth" strategy into waste management practices.

In a similar development, the Ministry of Science and Technology has initiated a programme for the:

- identification of major pollutants,
- monitoring and controlling the effect of pollutants on the environment,
- developing process technologies for combating industrial pollutants,
- establishing model treatment plants for demonstration and skill acquisition,
- converting solid wastes into energy and other useful purposes.

It is envisaged that by the year 2010, the programme would have achieved:

- the provision of a clean and healthy environment,
- a reduction in the extent of natural ecological damage.

FUTURE PLANS FOR MANAGING CHEMICALS, HAZARDOUS AND RADIOACTIVE WASTES

Mission statement

Achieve 100% compliance with both international and national regulations, standards and guidelines on hazardous/toxic chemicals and radioactive waste management.

Justification

Nigeria has national regulations on hazardous/toxic chemicals and wastes and is also involved in the implementation of some of the International Convention, Procedures and Protocols on Hazardous/Toxic Wastes and Chemicals and Radioactive Waste Management. By the year 1998, Nigeria shall develop national regulations on the Basel Convention on Transboundary Movement of Toxic Wastes; Procedures/Protocols on "Prior Informed Consents" on Hazardous Chemicals in International Trade, etc.

Strategies for the management of hazardous wastes

1. Require and assist industries to change to cleaner production methods and adopt preventive and recycling technologies.
2. Encourage the phasing out of processes that produce high risks because of hazardous waste generation.
3. Carry out environmental audits of existing industries to improve hazardous waste management.
4. Producers to be responsible for the environmentally sound disposal of the hazardous wastes they generate.
5. Establish public awareness and training programmes for industries and government workers on hazardous waste issues, especially waste minimization.
6. Build treatment centres for hazardous waste either at national or state level. Industries should treat, recycle, re-use and dispose of wastes at or close to the site where they are created.
7. Create alert systems to detect illegal traffic in hazardous wastes.

Strategies for the Management of Toxic Chemicals

1. Control chemical hazards through pollution prevention, emission inventories, product labelling, use limitation procedures for safe handling and exposure regulations.
2. Phase out/ban high risk chemicals that are toxic persistent and bioaccumulative and whose use cannot be adequately controlled or monitored.
3. Develop policies which will be based on principles of producer/ polluter liability.
4. Emphasize the use of biological control methods for pest-control.
5. Provide information on chemical hazard in local languages.
6. Establish emergency-response centres including poison-control centres.
7. Control the importation of banned or restricted chemicals/pesticides.
8. Adopt community right-to-know programmes that provide information on accidental releases and annual routine emissions of toxic chemicals.

Strategies for the Management of Radioactive Waste

1. Promote ways to minimise and limit the generation of radioactive wastes.
2. Develop/acquire technology for safe handling of radioactive waste.
3. Develop policy which will make mandatory for used radioactive materials to be returned to suppliers.
4. Prohibit unauthorized storage or disposal of radioactive wastes.

AGENDA 21 CHAPTER 20: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS WASTES, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN HAZARDOUS WASTES

NATIONAL PRIORITY:	
STATUS REPORT: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was ratified in 1991. Additional comments relevant to this chapter <i>Please refer to the information provided under Chapter 19.</i>	

Cross-Sectoral Issues

1. Decision-Making Structure:
2. Capacity-Building/Technology Issues:
3. Major Groups:
4. Finance:
5. Regional/International Cooperation:

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-	
Generation of hazardous waste (t)				
Import of hazardous wastes (t)				
Export of hazardous wastes (t)				
Area of land contaminated by hazardous waste (km ²)				
Expenditure on hazardous waste treatment (US\$)				
Other data				

AGENDA 21 CHAPTER 21: ENVIRONMENTALLY SOUND MANAGEMENT OF SOLID WASTES AND SEWAGE-RELATED ISSUES

NATIONAL PRIORITY:

STATUS REPORT: *Please refer to the information provided under Chapter 19.*

FUTURE PLANS ON THE MANAGEMENT OF MUNICIPAL SOLID WASTE

Mission Statement

Achieve not less than 80% reduction in volume of municipal solid waste generated at all levels and ensure its environmentally sound management.

Justification

- a) Need to minimise wastes generated at all levels - this is a clean and environmentally sound approach which will reduce the volume of wastes destined for disposal particularly in the face of increasing population and the concomitant value attached to land.
- b) Need to ensure environmentally sound waste management of municipal solid waste including elimination of litter on Nigerian streets and promote basic sanitation;
- c) Need to combat indiscipline and promote responsible care;
- d) Need to secure for all Nigerians a quality of environment adequate for their health and well being.

Strategy

1. Promote education and awareness on waste prevention, separation of waste at source of generation and other environmentally sound Municipal Waste management approaches.
2. Develop and implement through the collaborative approach national guidelines and blue print for integrated management of Municipal Solid Waste, encourage markets for recovered waste products and ensure that those who generate wastes pay the full cost of environmentally safe disposal.
3. Promote strict compliance with anti-litter laws and regulations including ensuring provision of waste collection facilities.
4. Promote the development and adoption of appropriate technologies for the conversion of organic municipal solid waste to compost and encourage markets for its use as soil conditioners.
5. Review and strengthen existing laws and regulations for environmentally sound management of Municipal Solid Waste.
6. Ensure provision, upgrading and maintenance of necessary infrastructure for environmentally sound collection, transportation and disposal of Municipal Solid Waste.
7. Encourage and provide enabling environment for active private sector participation and commercialization of municipal solid waste management.
8. Ensure and promote establishment of sanitary landfill sites.
9. Strengthen local and state capabilities for environmentally sound management of Municipal Solid-Waste through effective collaboration, cooperation and provision of necessary technical support;
10. Promote simple, inexpensive, easy use of community/locally based technological initiatives for recovery, recycling, and re-use of municipal solid waste at all levels.
11. Encourage active participation of Non-Governmental Organizations (NGOs) and Community Based Organisations (CBOs) in promoting sound management of municipal solid waste.
12. Promote environmentally sound collection, handling, transportation and disposal of other non-hazardous wastes.
13. Encourage industries to produce bio-degradable packaging materials.
14. Assess, monitor and improve strategies for environmentally sound management of Municipal Solid Waste and non hazardous wastes.
15. Devote reasonable amount of the budget to addressing municipal solid waste management and ensure safe and healthy environment.

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
Generation of industrial and municipal waste (t)				
Waste disposed(Kg/capita)				
Expenditure on waste collection and treatment (US\$)				
Waste recycling rates (%)				
Municipal waste disposal (Kg/capita)				
Waste reduction rates per unit of GDP (t/year)				
Other data				

AGENDA 21 CHAPTER 22: SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES**NATIONAL PRIORITY:****STATUS REPORT:**

Please refer to the information provided under Chapter 19.

Cross-Sectoral Issues

1. **Decision-Making Structure:**
2. **Capacity-Building/Technology Issues:**
3. **Major Groups:**
4. **Finance:**
5. **Regional/International Cooperation:**

1. **Decision-Making Structure:**
2. **Capacity-Building/Technology Issues:**
3. **Major Groups:**
4. **Finance:**
5. **Regional/International Cooperation:**

AGENDA 21 CHAPTERS 23-32:

MAJOR GROUPS

The role of major groups are also covered under the various chapters of Agenda 21. The following is a summary of main objectives outlined in Agenda 21. Please check the appropriate boxes and describe briefly any important steps or obstacles.

**STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE
NATIONAL AND LOCAL LEVELS**

Ch. 24: GLOBAL ACTION FOR WOMEN TOWARDS SUSTAINABLE AND EQUITABLE DEVELOPMENT.
The Convention on the Elimination of All Forms of Discrimination Against Women was ratified in 1985.

24.a Increasing the proportion of women decision makers.

No information available.

24.b assessing, reviewing, revising and implementing curricula and other educational material with a view to promoting dissemination of gender-relevant knowledge.

Curricula and educational material

No information available.

24.c and 24.d formulating and implementing policies, guidelines, strategies and plans for achievement of equality in all aspects of society including issuing a strategy by year 2000 to eliminate obstacles to full participation of women in sustainable development. Policies/strategies etc.

No information available.

24.e establishing mechanisms by 1995 to assess implementation and impact of development and environment policies and programmes on women

No information available.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

In order to tap women's knowledge on issues related to the environment, FEPA has strengthened the Women Environment Desk within its structure. The Agency was very active in the National Preparatory Committee set up by the National Commission for Women to prepare the national position for the Fourth World Conference on Women held in Beijing, China in 1995.

As a further demonstration of Government's recognition of gender initiatives in the sustainable development effort, the National Women Commission has been upgraded to the Ministry of Women Affairs. The new Ministry recently organised a post-Beijing national Workshop held in April 1996 in Maiduguri. Technical and financial assistance were given by FEPA to demonstrate its support for Women's efforts in raising the level of environmental awareness in Nigeria.

Several of the activities embarked upon have continued to yield positive results. For instance as a result of increased level of awareness, women have been mobilised to undertake various projects on resources conservation especially in the area of waste recycling.

**STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE
NATIONAL AND LOCAL LEVELS**

Ch. 25: CHILDREN AND YOUTH IN SUSTAINABLE DEVELOPMENT.

25.a establishing processes that promote dialogue between the youth and government at all levels and mechanisms that permit youth access to information and opportunity to present their views on implementing A21.

**Describe their role in
the national process:**

25.b reducing youth unemployment

25.c ensuring that by year 2000 more than 50% of youth -- gender balanced -- have access to appropriate secondary education or vocational training.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

No information available.

**STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE
NATIONAL AND LOCAL LEVELS**

Ch. 26: RECOGNIZING AND STRENGTHENING THE ROLE OF INDIGENOUS PEOPLE AND THEIR COMMUNITIES.

26.a establishing a process to empower indigenous people and their communities -- through policies and legal instruments:

26.b strengthening arrangements for active participation in national policies

26.c involving indigenous people in resource management strategies and programmes at the national and local level.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):
No information available.

Ch. 27: STRENGTHENING THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS: PARTNERS FOR SUSTAINABLE DEVELOPMENT.

27.a developing mechanisms that allow NGOs to play their partnership role responsibly and effectively.

27.b reviewing formal procedures and mechanisms to involve NGOs in decision making and implementation.

27.c promoting and allowing NGOs to participate in the conception, establishment and evaluation of official mechanisms to review Agenda 21 implementation.

No information available.

27.d establishing a mutually productive dialogue by 1995 at the national level between NGOs and governments.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):
Government collaborative efforts with NGOs has been a most valued instrument for information and a catalyst for grassroot participation in the activities aimed at implementing Agenda 21.

There has been a steady increase in the number of Non-governmental Organisations concerned with environment over the past two decades. The principal ones include the Forestry Association of Nigeria (FAN), Nigerian Conservation Foundation (NCF), Nigerian Environmental Society (NES), the Nigerian Environmental Study/Action Team (NEST), Foundation for Environmental Development and Education in Nigeria (FEDEN), Country Women Association of Nigeria (COWAN), the Ecological Society of Nigeria (ECOSON), the Friends of the Environment (FOTE), CASSAD, EANET Africa, the Media Practitioners Environment Group and the Fisheries Society of Nigeria (FISON), Nigeria Regional Group of the International Bar Association of Nigeria, (NRG/IBA).

A number of key-NGOs located in different parts of the country have been consistently implementing different aspects of Agenda 21 in different communities working in collaboration with Community Based Organisations.

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

Ch. 28: LOCAL AUTHORITIES' INITIATIVES IN SUPPORT OF AGENDA 21.

28.a encouraging local authorities to implement and monitor programmes that aim to ensure participation of women and youth in local decision making.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

In line with the National Policy on Environment, the Government stipulated that all States of the Federation that have established their Environmental Protection Agencies should carry out the mandate of implementing the National Policy and enforce environmental standards and regulations within their area of jurisdiction.

Virtually all the States of the Federation have almost completed the preparation of their long-term State Environmental Action Plan (SEAP) under the World Bank assisted Environmental Management Project for Nigeria. The overall goal of SEAP is to strengthen the capacity of SEPAs to identify and prioritise environmental problems in their domains and formulate projects necessary to mitigate the identified problems.

Apart from the States Environmental Protection Agencies (SEPAs), line ministries/agencies at local levels are responsible for compliance monitoring of environment guidelines and standards. These include Urban Planning and Development Departments, Environmental Sanitation Task Forces and Forestry Guards.

Ch. 29: STRENGTHENING THE ROLE OF WORKERS AND THEIR TRADE UNIONS.

29.a full participation of workers in implementation and evaluation of A21.

29.b (By year 2000, (a) promoting ratification of ILO conventions; (b) establishing bipartite and tripartite mechanism on safety, health and sustainable development; (c) increasing number of environmental collective agreements; (d) reducing occupational accidents and injuries; (e) increasing workers' education and training efforts.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

No information available.

30: STRENGTHENING THE ROLE OF BUSINESS AND INDUSTRY.

30.a increasing the efficiency of resource use, including reuse, recycling, and reduction of waste per unit of economic output.

30.b encouraging the concept of stewardship in management and use of natural resources by entrepreneurs.

List any actions taken in this area:

30.c increasing number of enterprises that subscribe to and implement sustainable development policies.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

The Government is actively encouraging the setting up of environmental desks by some organised private sectors such as the Manufacturers Association of Nigeria (MAN), the National Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA), the Oil Producers Trade Sector (OPTS), Clean Nigerian Associates (CNA), etc. Environment Units have been established by most Oil Companies and manufacturing industries for more effective monitoring and protection of environment and for health and safety matters.

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

Ch. 31: SCIENTIFIC AND TECHNOLOGICAL COMMUNITY.

31.a improving exchange of knowledge and concerns between s&t community and the general public.
Scientific community has already established ways in which to address the general public and deal with sustainable development.

31.b developing, improving and promoting international acceptance of codes of practice and guidelines related to science and technology and its role in reconciling environment and development.

Brief comments on this chapter not already described in chapter 35 (maximum 100 words) (please, do not exceed this page):

In this programme area the Government, through the Ministry of Science and Technology is carrying out, on a continuous basis, the following activities:

- training of manpower in leather production, foundry and equipment fabrication;
- organisation of workshops and seminars for personnel from the industries in the areas of assessment and management of technology.

Ch. 32: STRENGTHENING THE ROLE OF FARMERS.

32.a promoting and encouraging sustainable farming practices and technologies.

32.b developing a policy framework that provides incentives and motivation among farmers for sustainable and efficient farming practices.

32.c enhancing participation of organizations of farmers in design and implementation of sustainable development policies.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

No information available.

AGENDA 21 CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Financial resources and mechanisms are also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national financial policies, domestic and external (including ODA)

NATIONAL PRIORITY:

STATUS REPORT: The General Assembly, in resolution 44/228 of 22 December, 1989, inter alia, decided that the United Nations Conference on Environment and Development should identify ways and means of providing additional financial resources for measures directed towards solving major environmental problems of global concern and especially of supporting those countries in particular, developing countries, for which implementation of such measures would entail a special or abnormal burden, owing, in particular, to lack of financial resources, expertise or technical capacity. Based on this decision, it was stipulated that Agenda 21 is to be financed through States and International funding especially through Capacity 21 Fund.

CHANGES IN NATIONAL BUDGET TO ADDRESS SUSTAINABLE DEVELOPMENT:

The implementation of Agenda 21 in the country would expectedly be funded from the national treasury as part of the annual budgets. To some extent this has been so with the institution of the Ecological Fund, which is aimed at combating ecological disasters in the country; the Oil Mineral Producing Areas Development Commission (OMPADEC), which essentially is a fund created to ameliorate and mitigate the environmental degradation of oil and mineral producing areas of the country with 3 percent share of the Federation Account going into it. In spite of these, there is need to commit more budgetary funds to the implementation of Agenda 21. In the light of this, Government has increased the Ecological Fund for tackling national environmental problems from 1 percent to 2 percent of the annual budget.

Recently provision was made for enabling activities towards the implementation of Agenda 21 in the National Programme for Environmental and Natural Resources Management for Nigeria by the UNDP. In addition, International financing through Global Environmental Facility (GEF), the United Nations Environment Programme is already established. The budgets of line Ministries and State Governments have been also prepared to take care of environmental concerns. Resources have equally been mobilised from the organised private sector.

FUTURE PLANS FOR INTERNALIZING ENVIRONMENTAL COSTS THROUGH THE USE OF ECONOMIC INSTRUMENTS IN THE MANAGEMENT OF NATURAL RESOURCES**Justification**

Environmental laws and regulations are important but cannot alone be expected to deal with the problems of environment and development. Prices, markets and governmental fiscal and economic policies also play a complementary role in shaping attitudes and behaviour towards the environment. There is the tendency by the market to treat the resources of the atmosphere, internal waters, the oceans, etc. as free goods. It "externalises" or transfers to the broader community, the costs of air, water, land and noise pollution and of resource depletion. The broader community shoulders the costs in the form of damages to health, property and ecosystems. At the national level, these various forms of damage including declining human, industrial and agricultural productivity translate into drastic reduction in the GNP.

Strategy

1. incorporate environmental costs in the decisions of producers and consumers so as to reverse the tendency to treat the environment as "free goods" and to stop passing these costs on to other parts of society or to future generations;

2. move more fully towards integration of social and environmental costs into economic activities so that prices will appropriately reflect the true and total value of resources and contribute towards the prevention of environmental degradation. Towards this end, the following are scheduled implementation:
 - * Study and campaign 1998 - 1999,
 - * Phased implementation 2000 - 2005
 - * Full reflection of cost 2010.
3. include, wherever appropriate, the use of market principles in the framing of economic instruments and policies to pursue sustainable development, in particular, to consider gradually building on experience with economic instruments and market mechanisms by undertaking to reorient policies, keeping in mind national plans, priorities and objectives.
4. Achieve full compliance of the "Polluter Pays Principle" by 2010.

FUTURE PLANS FOR FINANCING ENVIRONMENTAL PROTECTION AND NATURAL RESOURCES CONSERVATION THROUGH NATIONAL AND INTERNATIONAL FUNDING MECHANISMS

Justification

Huge financial investments are needed to implement the various programmes and activities for Environmental Protection and Natural Resources Conservation. The cost of inaction far outweighs the financial implication of ensuring a safe and healthy environment for the present and future generations. A World Bank Report in 1990 estimated the cost of ameliorating only six out of the numerous environmental problems in Nigeria at about US \$5 billion annually which is the equivalent of the national budget. At present, this estimated cost has more than doubled. With the increasing pressure on the environment and natural resources, the cost of in-action would rise exponentially and manifest in the expansion of desertified areas loss of our agricultural and natural resources, declining agricultural productivity, impaired health of the citizenry, polluted surface and underground waters, expansion of coastlines into prime property and agricultural areas, etc.

While appreciating government, non-governmental, international and individual efforts at providing current financial requirements for environmental protection and natural resources conservation, there is the need to streamline the current funding mechanism to make them more efficient and responsive to the core objective of environmental protection and natural resources conservation. Also, in view of the magnitude of environmental problems and the rising cost of amelioration, there is need to provide new and additional financial resources that are both adequate and predictable to halt and reverse the current menace of environment and natural resources degradation and seek full use and continuing improvement of current funding mechanisms.

The 2% Ecological Funds is a welcome development, but not adequate. The Fund should be promptly disbursed for the amelioration of ecological problems beginning this fiscal year.

Strategy

1. ensure adequate annual budgetary provision for policy formulation and implementation of the National Policy on Environment;
2. include, in particular, the amelioration of key environmental problems;
3. There is a need to create a Fund for FEPA to administer for the rapid response to industrial accidents with significant adverse environmental impact;
4. Devote greater resources to the alleviation of the critical ecological problem in the oil producing areas;
5. Take full advantage of bilateral and multilateral technical and financial assistance in environmental protection and ensure maximum benefits from the financial mechanisms for the implementation of the Conventions and Protocols ratified by Nigeria.

NIGERIA

STATISTICAL DATA/INDICATORS						
	1992	1993	1994	1995	1996	
ODA funding provided or received (Total US\$million)						
	Average for 92-93		Average for 94-96			
Net flow of external capital from all sources as % of GDP						
Other data						

AGENDA 21 CHAPTER 34: TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Transfer of environmentally sound technology, cooperation and capacity-building is also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national policies and actions relating to chapter 34.

NATIONAL PRIORITY:

STATUS REPORT ON LINKS BETWEEN NATIONAL, REGIONAL AND INTERNATIONAL INFORMATION NETWORKS/SYSTEMS:

No information available.

MEANS OF IMPLEMENTATION: In this programme area, the Ministry of Science and Technology has established a new Department for Technology Assessment and Acquisition whose function is to ensure that all technologies acquired for industrial and commercial uses are environmentally friendly. Such acquisition should also be made at fair and competitive prices with non-restrictive clauses with regard to adaptations based on Research and Development in the use of local raw materials and existing technologies.

FUTURE PLANS TO PROMOTE RESEARCH AND DEVELOPMENT OF ENVIRONMENTALLY SOUND TECHNOLOGIES

Justification

Environmentally sound technologies protect the environment, by being less polluting, using all resources in a more sustainable manner, recycling more of their wastes and products, and handling residual wastes in a more acceptable manner than the technologies for which they were substitutes. Environmentally sound technologies are not just individual technologies, but total systems which include know-how, procedures, goods and services, equipment as well as organizational and managerial procedures. This implies that our technology acquisition initiative should address the human resource development and local and indigenous capacity-building aspects of technology options.

Strategy

1. ensure access to scientific and technological information, including information on state-of-the-art technologies;
2. promote, facilitate, and finance, as appropriate, the access to and the acquisition of environmentally sound technologies and corresponding know-how;
3. facilitate the maintenance and promotion of environmentally sound indigenous technologies that may have been neglected or displaced, paying particular attention to their priority needs and taking into account the complementary roles of men and women;
4. support local capacity-building so as to assess, adopt, manage and apply environmentally sound technologies. This could be achieved largely by:
 - i) human resource development;
 - ii) strengthening of institutional capacities for research and development and programme implementation;
 - iii) integrated sector assessments of technology needs, in accordance with our national plans, objectives and priorities; promote long-term technological partnerships between holders of environmentally sound technologies and potential users.

• Describe any work being undertaken at the national or local level regarding efforts to promote clean production processes and/or the concepts of eco-efficiency. These processes may include training, preferential financial arrangements, information dissemination and changes in legal or regulatory frameworks.

• Provide information on the adoption of environmental management systems. National reaction to environmental management system standards such as the ISO 14000 Series and others. Please note efforts made at the national level to promote their adoption and the creation of certification infrastructure in order to facilitate access to these standards to local industry.

• List and describe programs or work under way to facilitate the transfer of ESTs to small and medium sized enterprises. Please note efforts to facilitate access to financial resources and other transfer strategies.

AGENDA 21 CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

NATIONAL PRIORITY:	
STATUS REPORT ON NATIONAL SCIENTIFIC KNOWLEDGE, RESEARCH NEEDS AND PRIORITIES: The Federal Government, through the Ministry of Science and Technology, is currently undertaking the review of the National Policy on Science and Technology (enacted in 1986) with a view to using it as a key instrument for sustainable development.	
STEPS TAKEN TO ENHANCE SCIENTIFIC UNDERSTANDING, IMPROVE LONG TERM SCIENTIFIC ASSESSMENT, BUILDING OF CAPACITY AND CAPABILITY:	

STATISTICAL DATA/INDICATORS			
		Year	
Number of scientists, engineers and technicians engaged in research and experimental development	#	19--	
Total expenditure for research and experimental development (US\$eq.)	\$	19--	
Other data			

AGENDA 21 CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

NATIONAL PRIORITY:**STATUS REPORT:****Public Education and Awareness**

The Government, through FEPA and other relevant agencies, has undertaken programmes to enlighten, educate and raise awareness of the Nigerian populace through media (both print and electronic) campaigns on environmental issues. Identification, education and training of officials that would form the core of the Environmental Education Network nationwide are being undertaken. In addition the Agency has encouraged the setting up of Environmental Conservation Clubs in Secondary Schools, and has well as collaborated with the Federal Ministry of Education through the National Educational Research and Development Council (NERDC) on the development of Environmental Educational Masterplan and Curricula for both formal and informal educational system in Nigeria.

For the purpose of further educating the Nigerian society as to the benefits of frugal use of the environment for sustainable development, FEPA has produced a number of publications on key environmental issues in Nigeria. Some of these publications include:

- a. FEPA Monograph 1: The making of the Nigerian Environment Policy, 1992
- b. FEPA Monograph 2: Industrial Pollution Abatement in Nigeria, 1993
- c. FEPA Monograph 3: Environmental Consciousness for National Development, 1993
- d. FEPA Monograph 4: Industry and Ozone Layer Protection in Nigeria
- e. The Federal Environmental Protection Agency (FEPA) Corporate Profile.
- f. Green book

Apart from these publications, FEPA has always engaged in social activities aimed at raising the level of public environmental awareness. For instance, the Agency has always joined the world in the commemoration of the World Environment Day (WED)) during which the attention of the public, children and youths are drawn to the importance of safe and sound environment.

FUTURE PLANS FOR CREATING AND IMPROVING CAPACITY FOR SUSTAINABLE DEVELOPMENT**Justification**

The ability to develop more sustainably depends on the capacity of Nigerian citizens and institutions to understand the complex environment and development issues so that they can make the right development choices. Citizens need to have the expertise to understand the potential and the limits of the environment. This will require scientific, technological, organizational, institutional and other skills. There is also the need to increase the sensitivity of the Nigerian populace to, and involvement in finding solutions for environmental and ethical awareness, values and attitudes, skills and behaviour needed for sustainable development.

Strategy

1. By 1998, develop a blueprint for environmental education and public awareness.
2. By 1999, ensure that environmental education is a core ingredient of the educational system at the primary, secondary and tertiary levels of education.
3. Make environment and development education available to people of all ages.
4. Involve school children in local studies on environmental health, including safe drinking water, sanitation, food and the environmental and economic impacts of resource use.
5. Encourage all sectors of society, including industries, universities, governments, non-governmental organizations, and community organizations to train people in environmental management.
6. Work with the media, theatre groups, entertainment and advertising industries to promote a more active public debate on the environment.
7. Train decision-makers on the basic tenets of environment and sustainable programmes for different strata of the environment on a continuing basis;
8. Develop and implement tailor-made environmental education and awareness programmes for different strata of the environment on a continuing basis.
9. Institutionalize environmental responsibility through regular competitions and awards such as cleanest village in each local government, cleanest local government in each State and cleanest State in the Federation, as well as the most environmentally-friendly industries on a sectoral basis.

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-
Adult literacy rate (%) Male			
Adult literacy rate (%) Female			
% of primary school children reaching grade 5 (1986-97)			
Mean number of years of schooling			
% of GNP spent on education			
Females per 100 males in secondary school			
Women per 100 men in the labour force			
Other data			

AGENDA 21 CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES

National capacity building is also covered under sectoral chapters.

Donors: You may wish to describe here how Agenda 21 has influenced your ODA policies in this area.

Developing countries: You may wish to describe any new national mechanisms for capacity building - and any changes in technical cooperation.

NATIONAL PRIORITY:

STATUS REPORT:

Capacity Building and Institutional Strengthening: Cooperation with other United Nations Agencies

In this programme area, the Government has cooperated with other international organisations such as the World Bank, UNEP, UNDP, UNIDO etc especially in the areas of capacity building and institutional strengthening. This is to ensure manpower development for environmental protection and natural resources conservation in the country.

World Bank Assisted Environmental Management Project (EMP) for Nigeria

The main objective of the environmental Management Project (EMP) is to assist the country in its efforts toward sustainable environmental, and hence, human development through the following specific activities:

- i. Institutional Strengthening: Provision of Laboratories at both Federal and State Environmental Agencies in order to enhance monitoring of environmental components. Also vehicles and communication equipment have been provided under the programme to facilitate access to stakeholders and local communities.
- ii. Capacity Building: Officers from both Federal and State Environmental Protection Agencies have benefitted from some training programmes in Environmental Impact Assessment, Environmental Management, Environmental Education and Awareness and Media Education.
- iii. Feasibility Studies: Studies have been carried out in the areas of Hazardous Wastes, Solid Waste Management and Coastal Zone Management.

The United Nations Development Programme (UNDP)

In 1993, the UNDP offered to support the National Programme on Environmental and Natural Resources Management for Nigeria. The support focused essentially on capacity building in all the programme areas identified. This is to enable the environmental agencies of the government of Nigeria at both Federal and State level, Non-governmental Organisations (NGOs) and local communities design, formulate, manage, implement and sustain their own environmental protection programmes. Specifically, the four target objectives of the programme include the strengthening of national capacity for:

- i. formulation of environmental policies, legislation and enforcement;
- ii. increased awareness and conservation of the environment;
- iii. preparing national Agenda 21 and an action plan for its implementation;
- iv. training of staff of FEPA, State Environmental Protection Agencies and other national bodies to enable them carry out their work programmes on a self-sustaining basis.

The implementation of the programme areas is decentralised among the relevant organisations not only in compliance with the national policies on environment but also to enhance stakeholders participation. The Executing Agency has been the Federal Environmental Protection Agency (FEPA) which also implements three programme outputs while the fourth output the development of Master Plan and curricula for Environmental Education in all our schools - is being implemented by the Nigeria Educational Research and Development Council (NERDC). The activities of the implementing Agencies are being guided by the National Planning Implementation and Review Committee (NPIRC) comprising of relevant organisations.

Apart from in-house capacity development, FEPA in its bid to implement Agenda 21, has not only strengthened the existing State Environmental Protection Agencies, but also encouraged the establishment of new SEPAs in the newly created states. Guidelines for the establishment of State Environmental Protection Agencies have been developed and forwarded to these States. Apart from regular meetings between the Agency and Directors/General Managers of the State Environmental Protection Agencies, members of staff of the SEPAs have started to benefit from overseas training programmes under the Technical Assistance Training Programme and the World Bank Assisted Environmental Management Project for Nigeria. Training of staff from other line ministries and private sector in specialised areas such as Environmental Law and Environmental Impact Assessment EIA is already in progress.

Presently, an Environmental Enforcement Training Centre (EETC) is being established in FEPA to train environmental officers at both federal and state levels as well as those in the private sector.

In addition, review of the National Policy on the Nigerian Environment is almost at completion stage under the National Programme on Environmental and Natural Resources Management for Nigeria. Besides, equipment such as vehicles, computers, audio-visual aids and public address systems have been procured by UNDP for the implementing agencies.

AGENDA 21 CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

Ch. 38: Brief summary of any particular UN System response affecting this country/state:

See information provided under Chapter 37.

AGENDA 21 CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

Ch. 39: International Legal Instruments are covered under the relevant sectoral chapters. This is a listing of major agreements/conventions (not already covered) entered into and relevant to Agenda 21:

No information available.

AGENDA 21 CHAPTER 40: INFORMATION FOR DECISION-MAKING

This chapter is also covered under sectoral and other chapters of this profile. The matrix below gives an overview of how national authorities rate the available information for decision making.

Rating of available data and information suitable for decision-making

Agenda 21 Chapters		Very good	Good	Some good data but many gaps	Poor	Remarks
2.	International cooperation and trade					
3.	Combating poverty					
4.	Changing consumption patterns					
5.	Demographic dynamics and sustainability					
6.	Human health					
7.	Human settlements					
8.	Integrating E & D in decision-making					
9.	Protection of the atmosphere					
10.	Integrated planning and management of land resources					
11.	Combating deforestation					
12.	Combating desertification and drought					
13.	Sustainable mountain development					
14.	Sustainable agriculture and rural development					
15.	Conservation of biological diversity					
16.	Biotechnology					
17.	Oceans, seas, coastal areas and their living resources					
18.	Freshwater resources					
19.	Toxic chemicals					
20.	Hazardous wastes					
21.	Solid wastes					
22.	Radioactive wastes					
24.	Women in sustainable development					
25.	Children and youth					
26.	Indigenous people					
27.	Non-governmental organizations					
28.	Local authorities					
29.	Workers and trade unions					
30.	Business and industry					
31.	Scientific and technological community					
32.	Farmers					
33.	Financial resources and mechanisms					
34.	Technology, cooperation and capacity-building					
35.	Science for sustainable development					
36.	Education, public awareness and training					
37.	International cooperation for capacity-building					
38.	International institutional arrangements					
39.	International legal instruments					
40.	Information for decision-making					

Additional Comments

Sustainable development requires intelligent environmental decisions. Sound environmental decisions can only be made with the help of timely, relevant and reliable information. Bearing these facts in mind and, in line with recommendation 101 of the 1972 Stockholm Conference on the Human Environment as well as the concern expressed at the UNCED in 1992, the Federal Environmental Protection Agency (FEPA) as the coordinating Agency for environmental issues in Nigeria has taken concrete steps to facilitate the acquisition and exchange of environmental information before and since after the UNCED at Rio in 1992. Efforts of the Agency in this regard include:

- i. The establishment of a Data Management and Information Unit;
- ii. The establishment of an environmental reference library;
- iii. Nigeria's active participation in the UNEP/INFOTERRA Network.

Data Management and Information Unit

The Data Management and Information Unit was established as one of the major components of the World Bank assisted Environmental Management Project in Nigeria. The project commenced in 1992 shortly after the UNCED.

The Data Management and Information Unit is a network in which FEPA as the central node would be connected to other sectoral nodes dealing with: forestry, natural resources, land and water resources conservation.

Environmental Reference Library

In its efforts to provide the public with excellent and up-to-date reading materials on environmental issues, the Agency established an environmental reference Library at its Headquarters in Abuja in 1994 in addition to the existing Library in Lagos Office. The Headquarters Library are stocked mainly with the publications of the Agency and those from UNEP, UNESCO and other global donor Agencies. The Library has 30 serial publications, 33 FEPA publications and 2,100 Monograph titles. The Library is currently being expanded and computerized under the World Bank Assisted Environmental Management Project in Nigeria. The facility is being consulted from various Government Agencies, Universities, the private sector and individual consultants all over Nigeria.

Infoterra Services

As part of its efforts to encourage information exchange on the environment, FEPA continues to be an active member of INFOTERRA. INFOTERRA is the global environmental information exchange network with National Focal Point in 174 Countries coordinated by UNEP. Nigeria joined the network in 1974.

To date the Agency has forwarded to UNEP 25 local sources of environmental information for inclusion in the International Directory of sources. Additional 35 sources have been identified for registration while a national directory of sources is being compiled for publication. Also, plans are underway to establish sub-focal points in Environmental Protection Agencies in the 36 States of the Federation and the Federal Capital Territory. FEPA is also consulting with UNEP/INFOTERRA on the possibility of establishing an INFOTERRA Regional Service Centre for the Anglophone West African Countries in Nigeria.

As part of this programme, the Ministry of Science and Technology has established a 3-tier (Federal, State, Local Government) linkage for disseminating timely technical data for decision-making applicable to the setting up of cottage, small and medium scale industries. In addition, the Ministry is in the process of establishing a wide area network to link all the Research Institutes for the purpose of information exchange and to facilitate institutional linkages.

FUTURE PLANS FOR MANAGING ENVIRONMENTAL INFORMATION FOR SUSTAINABLE DEVELOPMENT

Justification

A wealth of information that could be used for the management of sustainable development are available with various organizations and individuals in Nigeria.

However, many people, including decision makers have difficulties in finding the information they need, when they need it and in formats that are useful to them. The existing environmental information is yet to be adequately managed due to shortages of needed technology and trained specialists, lack of awareness of the value and availability of such information and the narrow demands of data collecting individuals and organizations.

There is also a need for different types of information. Commonly used indicators such as GNP and measurements of individual resource or pollution flows do not provide enough information about sustainability.

Strategy

1. By 1998, establish a functional data management and information systems capable of managing environmental trends over time;
2. By 1999, develop a baseline database on the state of urban air, freshwater, forests and rangelands, desertification, soil degradation, biodiversity, industrial pollution, oil pollution;
3. Monitor the state of the Nigerian environment on a continuous basis and publish regular bulletins to guide policy formulation and decision-making processes;
4. Acquire and/or seek necessary assistance for direct access to information systems such as data from satellites;
5. Create greater harmonization among different environmental data gathering organizations;
6. Develop inter-sectoral framework and infrastructure for sharing of data, expertise and resources on environmental information;
7. Promote standardization of data formats, and minimize and/or eliminate duplication of efforts in environmental information management;
8. Develop an information access and use policy, including copy-right issues for environmental information;
9. Develop a core of indigenous professionals for the efficient management of Geographical Information Systems and other spatial information technologies.

STATISTICAL DATA/INDICATORS

	1980	1993	Latest 199-
Number of telephones in use per 100 inhabitants			
Other data			